May 15, 1961

PULP & PAPER

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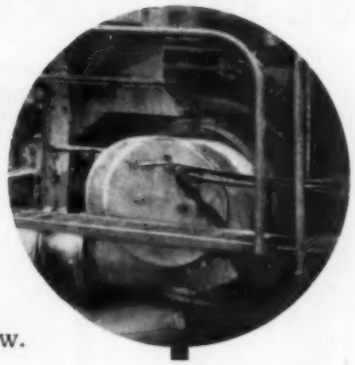

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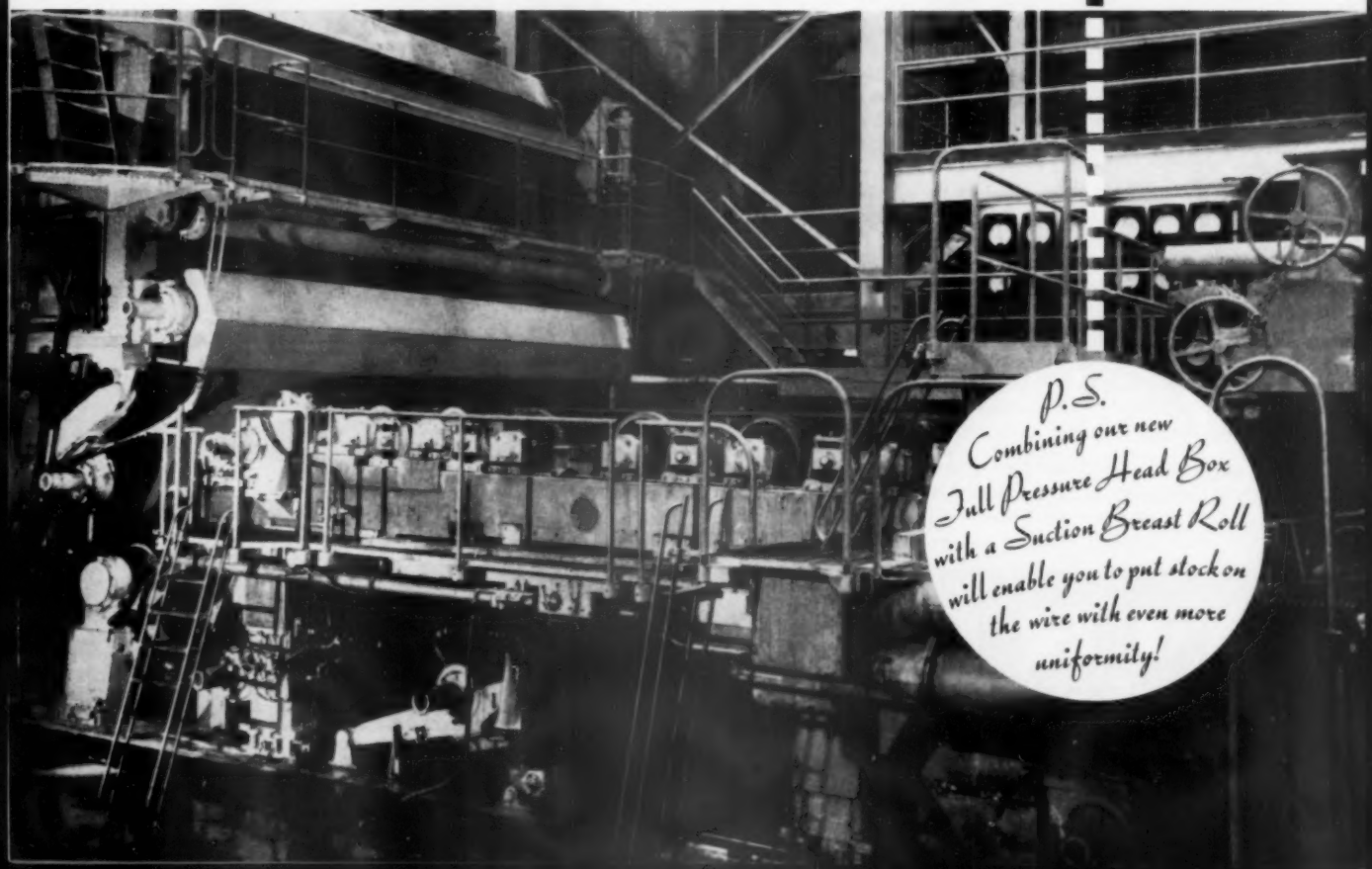

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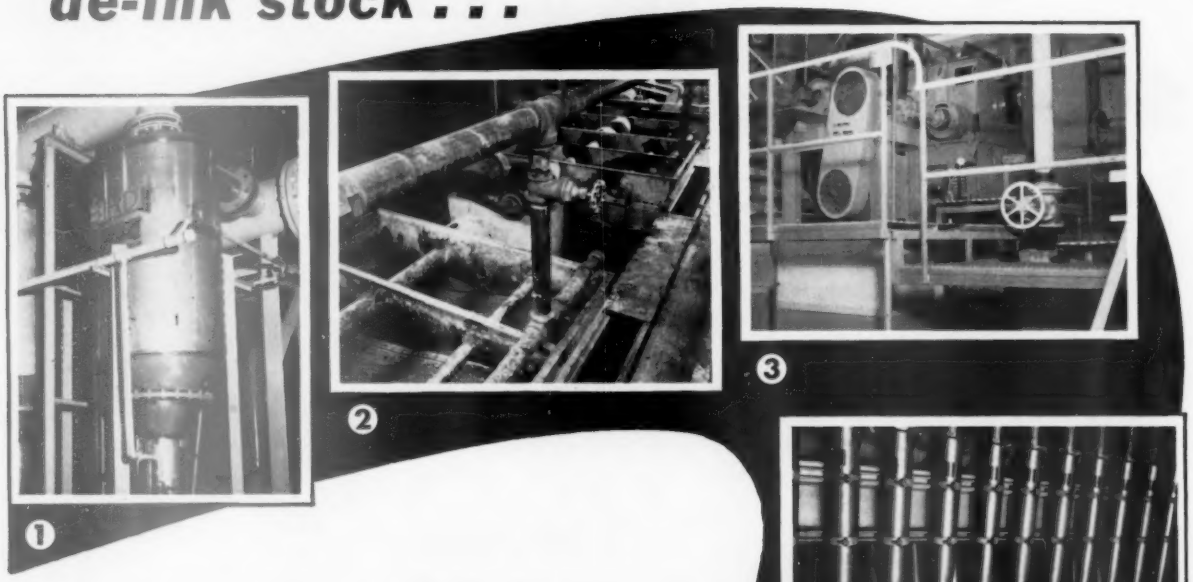

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NEWS DIGEST...

Citizens committee says "go slow"
in expanding "wilderness areas" as contemplated in controversial Anderson bill. At first meeting of new Advisory Committee on Multiple Use of National Forests, named by Chief Forester McArdle, committee agreed better management of present wilderness areas is important. It agreed that extensive expansion of areas might be impractical.

Lone member representing pulp-paper
is Lucian A. Whittle, woodlands mgr., Brunswick Paper Co. Others: two livestock men; a lumberman; a sportsman; a game commissioner; a miner; two public water officials; a water expert; a conservationist; a university president; and two women. One more was to be named—pulp-paper leaders feel they deserve it.

Industry parade to Washington
continued. Forty-eight pulp-paper-board leaders invited to meet Commerce Secy. Hodges and others May 23-24 will be coached to take executive posts in national emergencies. John Becker, St. Regis, was due again in Washington May 15 to caution House Public Works committee against usurping states rights in the Blatnik pollution bill. Max Bardeen, Simpson-Lee, and APPA first v.p., testified against the pre-merger notification bill.

U.S. paper production was down
by 3% from last year for the first four months of 1961. This year's figure—11.3 million tons. For the last week of April, paper production ratio to capacity was 87.9% (99.4% a year before). Board ratio was 91% (92% a year ago).

Senator Morse failed badly
in attempt to get 12-man crew exemption back into Kennedy minimum wage bill—for loggers only. And he represents the biggest lumber state and 10th biggest pulp state—Oregon!

Industry executives Appleton-bound
on May 25-26 will hear Leonard E. Read, head of Foundation for Economic Education, a former western U.S. C.of C. leader, and conductor of seminars in Argentina, Philippines and Japan. Institute of Paper Chemistry is host.

First quarter reports of leaders:
Lawson Turcotte, Puget Pulp: "Continued rise in exports is helping U.S. woodpulp industry at a time when domestic demand is not quite matching year-ago figures." George Olmsted Jr., S. D. Warren: "Our profit after taxes was up 23% over 1960. Our volume was greater than we anticipated. Pulp-paper prices seem stabilized." John Alexander, Nekoosa-Edwards: "Earnings, $908,528 (1st quarter 1960—$709,754). We should concentrate on business papers." J. L. Riegel, Riegel Paper: "Earnings should rise moderately in last three quarters." Robert Faegre, M&O Paper: "Mid-March recovery was too little and too late to be of real benefit." Alex Calder Jr., Union Bag-Camp: "Orders running 15-20% ahead of '60 average, will continue ahead. Raised kraft grocery bag prices 7½%."

.....BUSINESS

Sect'y Hodges considers plea

by paper industry leaders for action to protect export markets

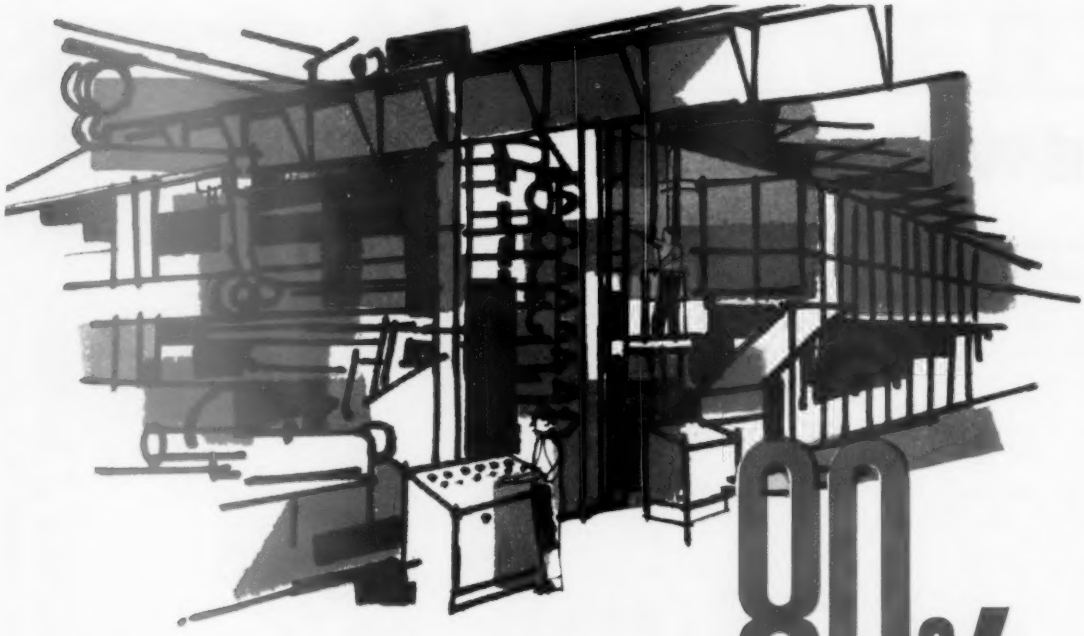
BY ALBERT W. WILSON
Editor, PULP & PAPER

SIX LEADERS of the American paper industry have met personally with Secretary of Commerce Hodges in Washington to urge specific action in two directions which they asserted would assist and protect newly-won and growing export markets for American paper and paperboard.

They were especially concerned with Scandinavian competition in the United Kingdom markets.

Secretary Hodges met alone with this top bracket industry delegation in the privacy of his offices. No one else was present on the government side. It was shortly before the secretary planned a flying trip to Scandinavia in the interests of encouraging trade fairs and more trade with the United States. He promised his visitors a thorough investigation of their complaints and fullest consideration of their proposals.

Mr. Hodges' guests were Howard E. Whitaker (Mead Corp.) president of the American Paper and Pulp Assn., William R. Adams (St. Regis), J. L. Riegel (Riegel Paper Corp.), James T.



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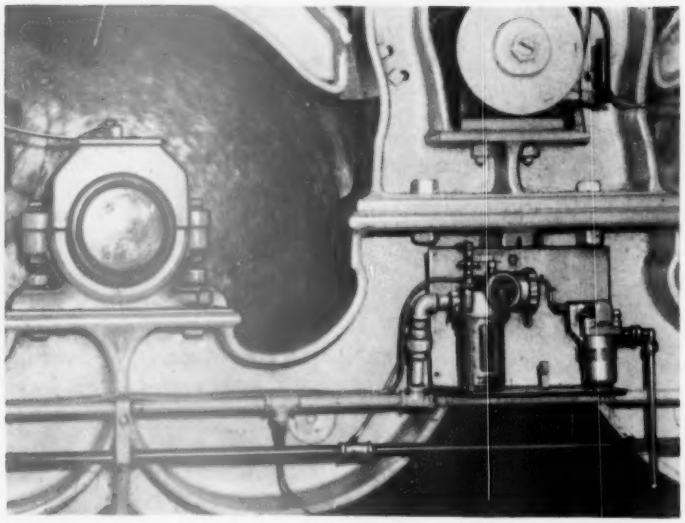
This is a remarkable record of savings



Here is the heart of the Alemite Oil-Mist System—a dependable, compact, easily installed unit consisting primarily of a lubricator, solenoid control, water separator, individual bearing fittings and tubing.

Seven years ago a paper manufacturer installed an Alemite Oil-Mist System to lubricate several hundred dryer roll bearings on a paperboard machine. Lubrication efficiency increased and costs were reduced 80%.

These machines "rest" only on Labor Day and Christmas. Yet in seven years there has never been a breakdown in the Oil-Mist System or a day of production lost because of faulty lubrication! The exceptional cleanliness has noticeably reduced spoilage.

Enjoy the savings and dependability of Alemite Oil-Mist Lubrication in your mill. It is the fully automatic way to assure continuous, correct lubrication. Oil-Mist on Jordans, refiners and calender stacks means increased savings in bearings and lubricants—plus better production and profits.

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Sheehy (Rayonier Inc.), G. T. Ticoulat (Crown Zellerbach Corp.), Robert E. O'Connor, executive secretary, APPA.

The APPA delegation proposed these actions:

1. The U.S. representative at the GATT negotiations for tariff reductions among 32 participating nations, now proceeding in Geneva, keep "prominently in mind" a request by the American pulp and paper industry for "the same tariff" treatment and other trading privileges "as are accorded competitive industries of other countries" (meaning Scandinavia).

2. Finland to be added to the list of 19 countries which recently were declared ineligible for further commodity procurement financed with International Cooperation Administration (U.S.A.) funds because "there are no paper products unique to Finland that cannot be supplied by U.S. firms."

Mr. Hodges told his guests that on his trip to Scandinavia he would spend some time in Finland. Since the meeting, industry leaders have heard of further allotment of Export-Import Bank funds to Finland which would be used to increase the newsprint and paper manufacturing capacities of Finnish mills, which have been expanding rapidly in recent years.

Political and defense reasons are behind government assistance to Finland because of the loss of a large chunk of its pulp paper producing area to Russia and the depletion of Finland's strength by the heavy Russian reparations. This was told PULP & PAPER by high officials in Washington. The government wants a strong Finland on the northern Russian frontier.

At the same time, PULP & PAPER learned the government is very much concerned with the project for a new Finnish-Norwegian kraft mill at the Norwegian Arctic seaport of Kirkenes. All the wood would come from Finland on a highway built along the Russian border (thus available to Russians, too) and power would be supplied by Russian dams. Trygvie Lie, former secretary-general of the United Nations, who was driven out of that office by Russia, was unable to raise money in the U.S.A. for the mill, but Norway and Finland are expected to be able now to finance the project.

It is understood that Mr. Hodges, when he met the industry leaders, was not familiar with the fact that ICA

They plead industry's cause to Hodges . . .

WHITAKER

SHEEHY

RIEGEL

TICOULAT

ADAMS

O'CONNOR

program had not cut off Finland, although it banned such funds for Canada, Sweden, Norway, Austria, and other big pulp and paper producers, as well as Britain, France, West Germany, etc. He offered no reasons for the exception made for Finland.

The current all-out drive being conducted by Mr. Hodges and his aides in the Commerce Department to assist and encourage American industries to step up their exports made the ex-North Carolina Governor —by his own commitments and speeches—a sympathetic and friendly listener to the paper industry delegation.

The American paper industry, PULP & PAPER reliably learned, is the only major U.S. industry which has taken such aggressive steps on its own part to stir up the U.S. Government in its behalf in Europe.

The current situation contrasts with that which obtained in the United States just prior to World War II, when the newly developing American market pulp industry sought protection and assistance but was told in no uncertain terms by Secretary of State Hull that there was no need for a domestic pulp industry. This magazine frequently urged that a pulp industry would be important in wartime and in a few months the Atlantic blockade by Hitler's submarines proved the point. PULP & PAPER was a lone voice raised in that cause. It still took early wasteful war years to prove to the government that pulp and paper were as essential to victory as iron and steel.

The EFTA tariff reductions were the chief target of the APPA delegation to Washington. They pointed out to Mr. Hodges that Sweden and Norway, and now Finland, too, with Russian approval, will enjoy a 30 percent tariff preference for their paper exports to the United Kingdom with the next 10 percent cut July 1st.

Oddly enough, British papermakers themselves are quite alarmed about the new program to hasten the EFTA (European Free Trade Assn.) tariff reductions. Ten percent annual cuts were to be spread over ten years, but now the EFTA members are cutting down the time.

Effect of EFTA Tariff Reductions on Linerboard Prices in Britain
(based on prices for 47 lb. liner, before EFTA reductions)

	Export from U.S.A.	Export from Scandinavia			
C.I.F. price	$134.55	$135.00	Net price plus duty	153.52	152.24
C.I.F. price less discount	133.41	132.30	Net price plus duty, 7/1/60	153.52	148.25
Present duty	20.11	19.94	Net price plus duty, 1/1/70	153.52	132.30
Duty 7/1/60	20.11	15.95			
Duty 1/1/70	20.11	0			

TD-12 Slitter-Winders

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Howard S. Donald
President

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Responsible leaders of the British paper industry have conceded, however, that so far the Scandinavians have acted in gentlemanly restraint and have not upset British markets by pouring in their paper products at the reduced tariffs. But the British ask: Will this good behavior (from their viewpoint) continue when the present European paper market boom subsides?

Woodpulp is involved—oddly in this issue. It is certainly not involved directly, because all woodpulp enters the British market free. In other European countries, it is free or tariffs have been reduced in some cases—for all nations.

But, indirectly, pulp is quite definitely involved. The British papermakers visited by this writer in London and elsewhere in the U.K. pointed out quite emphatically that if too much paper or paperboard from America or Scandinavia comes into their markets, this will reduce purchases of American and Swedish woodpulp.

But linerboard is the big issue for the American producers. The trend to more packaging in Europe has created a strong demand for linerboard. In Britain, linerboard constitutes 90 percent of paper and board imports from U.S.A. Shipments to Britain by U.S. mills in 1960 were valued at nearly $2.2 million.

Currently, four big linerboard mills have been, or are being, rushed to completion in Sweden and Finland to meet the swelling demand. Europeans like their board made with the excellent fibers of the northern European woods.

U.S. and Scandinavian prices were very close before the EFTA tariff reductions. The 20 percent EFTA tariff reduction brought the differential in favor of Scandinavians from $1.28 to $5.27 per ton and by the time EFTA eliminates all tariffs among its members (sooner than original target date of 1970), the difference in favor of Scandinavians will be $21.22 (providing CIF prices remain constant).

Secretary Hodges, himself a highly successful merchant, could easily understand the fears of the paper industry delegation that their export business might be entirely wiped out by this process. They presented to him the comparative figures on linerboard prices in Britain, before and after the tariff cuts.

The fire of the APPA delegation was directed at the EFTA and not the Common Market (the Inner Six nations of Europe) although it also is gradually reducing its tariffs. The reason: the Common Market is not giving the Scandinavians any different treatment than Americans.

The Americans, and the British for that matter, have looked for a diversion of more Swedish paper and board from Continental Europe to Britain because of the EFTA reductions. This diversion has not developed into any really disturbing amounts, possibly because the Swedes do not want to alienate their British pulp customers. And the market has been growing, anyway.

For months the consumption in Britain has been running 15 to 17 percent higher than the previous year. But no one really expects such a fabulous consumption rate to keep up.

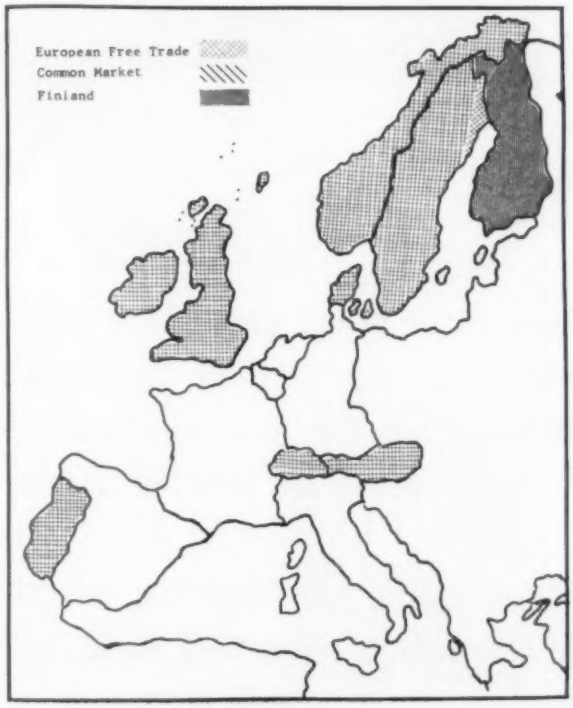
APPA leaders told Mr. Hodges the EFTA agreement would not have to be amended or altered basically. An extension of the tariff reduction to let the U.S.A. under the EFTA tent would be entirely in order, they said, and consistent with EFTA policies.

The GATT conferences in Geneva which have been carrying on without benefit of headlines since way last fall, are still dealing with the problem of the Common Market tariffs. The GATT members outside this market want, and are reasonably hopeful, that these will not be too destructive to their trade.

This pattern of negotiation winds up in about mid-June. Then comes the overall round of tariff negotiations—nation by nation bilateral negotiations. The American paper industry appears to be the only one which is pushing so energetically for support at GATT in these crucial dealings.

However, the business and industrial world of all Europe is now fully cognizant of the fact that EFTA and EEC (the Common Market) will be forced eventually by their governments to join together to create a bargaining unit comparable to Russia on one side and U.S.A. on the other.

The United States and Canada have been admitted to OECD (the Organization for Economic Cooperation and Development) which will replace the old OEEC. In the old Rothschild chateau in Paris, I visited the paper industry bureau of the OEEC. Under the new set-up there will be American and Canadian participation. Here is perhaps the place, as much as in Geneva, where American paper and board industries can look for the greatest assistance in opening doors for their products in Europe, or at least in preventing the shutting of doors. That is more to the point, as the APPA sees the problem. ■



EFTA COUNTRIES are shown in this especially prepared map. Finland has special contract agreements.

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"Business turn has started . . ." Whitaker

DAYTON, OHIO—"I'm not going to predict results for the second quarter, but I believe that recovery in general business conditions has started . . . the turn came about 30 days ago."

So commented Howard Whitaker, Chairman of the Board of Mead Corp. and President of the APPA at Mead's annual meeting. His optimistic report continued:

"I've been in touch with many of the leaders in the paper industry and I am pleased to find a marked change in attitude has developed in the last five, six weeks. Almost everyone is optimistic about future trends and prospects.

"Demand for paper, paperboard and paper products generally is on the upturn . . . with very few exceptions . . . in almost every segment of the industry. Whether improvement will sustain remains to be seen."

Mr. Whitaker reported that Mead's white paper mills are running substantially full-time and the unfilled order back-log is somewhat better than the industry average. He said the company has the strongest order position in many months.

St. Regis President William Adams also sees a general improvement in business conditions. Like Mr. Whitaker he reserved comment on its "rapidity and its scope" but backlogs of orders "in all divisions of the company are markedly better . . . than they have been . . . and earnings during March were . . . more than 50% better than January and February results," he said.

Mr. Adams said it is expected that the improvement indicated will continue throughout the year, perhaps directly reversing the declining pattern of last year. He also pointed out that cost control and cost reduction efforts have been most effective, saving $11½ million over last year. This program, he added, will continue indefinitely into the future. ■

Newsprint outlook good, but costs increase

By NEIL F. ROBERTSON, Vice Pres. and Gen. Mgr., West Tacoma Newsprint Co.

STEILACOOM, WASH.—For the first time in years, the overall outlook for newsprint appears to be favorable. If this were not so, companies that have never been in the pulp and paper field would not be choosing the manufacture of newsprint as their product, and certainly companies already in the paper field would not be choosing the manufacture of newsprint in their expansion program.

I do not believe the price of newsprint will drop but will rise from now on at the same rate as other paper products. Why? Because too many producers still remember what happened during the depression years. In spite of most all newsprint mills' running at unsatisfactory capacities, the price has not dropped. In fact, I believe since there has not been a price increase since 1957, one not only can be justified but it could take place shortly.

I do not believe newsprint can be produced cheaper than it is now being produced, for one simple reason. Newsprint users, like all other consumers, are constantly demanding a better product. *Advertising competition is making it necessary to have a better and better printing and running product.* Cheaper but lower quality furnishes, therefore, have no place in modern day newsprint production.

The deinking of newspapers for remanufacture to newsprint has been a fascinating subject for many years. I have been very interested in these processes, including the Garden State Paper Co. (Scudder) project in New Jersey recently announced. Until it is actually done on a competitive basis, no one will have all the answers. Basing the financial success of the operation on the use of a cheap raw material is like the history of the use of hemlock for pulping here on the West Coast. As the use of western hemlock was increased, stumpage costs went up to where it is now no longer a cheap source of pulpwood. Furthermore, reworked newspaper requires as much, if not more, chemical pulp to make a good sheet of newsprint as the original groundwood required.

With average groundwood costs in the range of 35% to 50% of total production costs, depending mainly on wood and electrical power costs, the cost of using newspaper, its reprocessing and fortifying with purchased chemical pulp, will allow but little if any margin of profit over the present day production cost of newsprint furnish.

The other costs of manufacturing newsprint, excluding the fiber costs, such as shipments to the customer, sales expenses, etc., are the same regardless of whatever furnish is used.

There is therefore only one other way in addition to the possibility of a cheaper furnish that can make newsprint from deinked newspapers cheaper than conventional newsprint, and that is the ability to locate the production facility near the consuming market in order to eliminate high delivery costs and lower the cost of reclaiming the newspapers. This factor, however, is offset to a great degree by cost of purchased chemical pulp as previously mentioned: wrapper, cores, (most newsprint manufacturers make their own), added cost of electrical power, steam, water, taxes, etc.

The hope of a lower furnish cost, and the hope of a lower reclaiming and delivery cost, therefore, are not as favorable as the layman might like to believe. ■

MR. ROBERTSON, from the Southern paper industry, moved to the West Coast to make newsprint. After many years at it, here are his observations.

These men are making certain of

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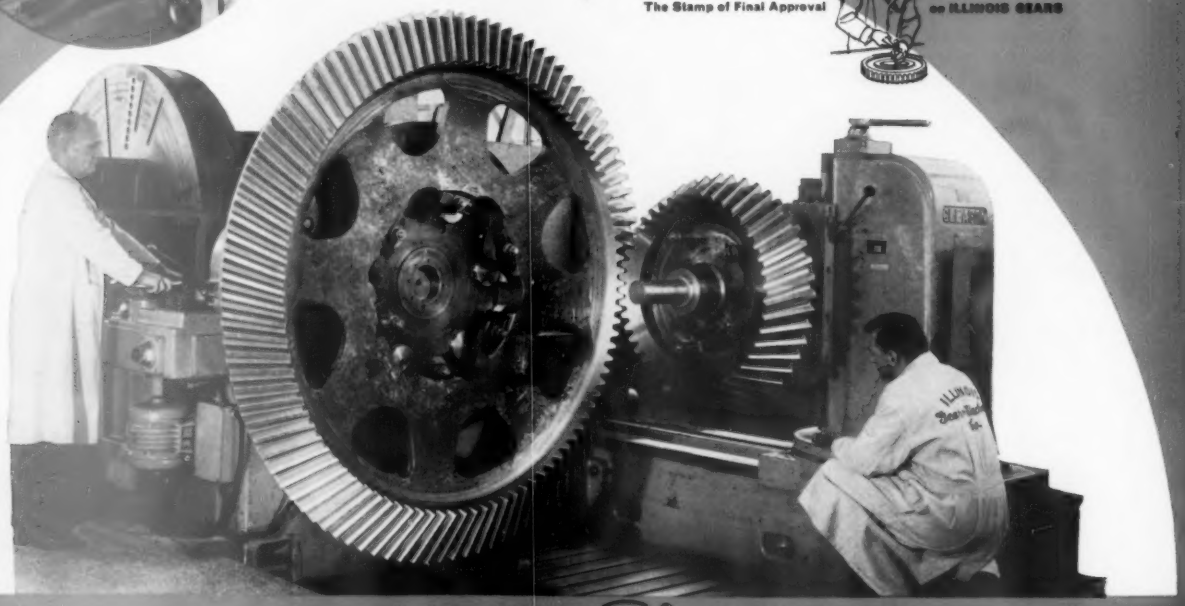

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MB&PR "discord" unraveled by Clyne

By CHARLES L. SHAW, Canadian Editor, PULP & PAPER

VANCOUVER, B.C.—When Powell River Co. and MacMillan & Bloedel merged less than two years ago to form MacMillan, Bloedel & Powell River, Ltd., one of the real giants of the industry, it seemed like an ideal union.

The company's sales last year totalled $305 million.

No one could have fully appreciated the discord that would develop in meshing the executive personnel of the two big companies. The potential of a combination such as this seemed a hard one to better.

Powell River Co., which initiated the alliance, already operated the world's largest single newsprint mill, possessed a smart executive team, as well as considerable timber and other valuable properties. MacMillan & Bloedel, although a comparative newcomer in the pulp-paper field, reflected the organizational genius of its founder, H. R. MacMillan, and had long been regarded as one of the most aggressive corporations in its field, holder of vast forest resources, a leader in lumber and plywood production and moving fast in pulp and newsprint.

J. V. Clyne, chairman of the board, says that it is working out satisfactorily. But one of the inevitable results of a merger of this kind is that there are two men for each job, and while an effort was made to integrate the groups harmoniously, conflict soon developed. The situation wasn't helped by the fact that soon after the complicated merger, which cost $1,000,000, materialized, the forest industry headed into a severe slump.

During the past few months there were several resignations of executives, all of them former Powell River Co. men. The most prominent: John E. Liersch, who had been PR's executive vice president prior to the merger and a vice president in the new setup. Mr. Liersch's departure (he later became a vice president of Canadian Forest Products) was the sure tipoff that all was not well in the merged company's inner circle. This was confirmed when M. J. (Joe) Foley resigned as president. He has accepted the vice presidency and a directorship of Anglo-Canadian Pulp & Paper Mills, Ltd., in Quebec. (See People, page 25 in this issue.)

Powell River was known as "the Foley company" because after Harold S. Foley, Joe's older brother, came up from Florida to take command of the B.C. organization in 1936 it bore the imprint of his personality. Harold and Joe have made a lasting contribution to B.C.'s forest industry, and their withdrawal has been widely deplored. Although continuing as a director, Harold Foley has retired as vice chairman of the board. Simultaneously H. R. MacMillan retired as honorary chairman, so the two men who played key roles in the development of the companies forming the great MB&PR complex are now no longer active.

Firmly in the saddle as the two top executives of the company now are Mr. Clyne and Ralph M. Shaw, the latter as president (See People, page 25.) Both were with MacMillan & Bloedel bofore the merger. At the company's annual meeting in Vancouver April 24 Mr. Clyne reluctantly yielded to a shareholder's request and gave his explanation of why Joe Foley retired.

"I must and do insist that in this company there should be and must be a high degree of teamwork between the senior executive officers," said Mr. Clyne. "I am satisfied that the lack of much teamwork has and will cause comapny losses."

More specifically, Mr. Clyne named an ill-starred charcoal plant venture as one cause of serious disagreement. This plant, which had been initiated by Powell River Co., was shut down after losing $1.5 million. "I attribute that not to the fault of any one person, but to the failure of different members of the company to act in close cooperation," said Mr. Clyne.

Joe Foley later said that the charcoal plant was only a minor point of disagreement. "I resigned", he said, "because I disagreed completely with many basic aspects of management policy." ■

Giant Canadian newsprint merger offered

MONTREAL—Reports from London indicate that a $162,000,000 newsprint merger is in the offing following a Canadian offer to buy British shareholdings in Anglo-Newfoundland Development Co., Ltd.

Associated Newspapers, Ltd. has announced it has received an offer from Price Bros. & Co., Ltd., to buy its 51% interest in the Anglo-Newfoundland operation. The basis for the offer is two Price Bros. common shares for every 11 Anglo-Newfoundland $5 ordinary share.

"The offer is conditional upon the necessary treasury and exchange control consents being obtained, and subject to this the exchange between Associated and Price will become effective," the Associated Newspapers announced.

"An offer on the same exchange basis will be made to acquire the remaining shares of A.N.D. other than shares held by residents in the U.S. subject to consent by the Exchange Control Board."

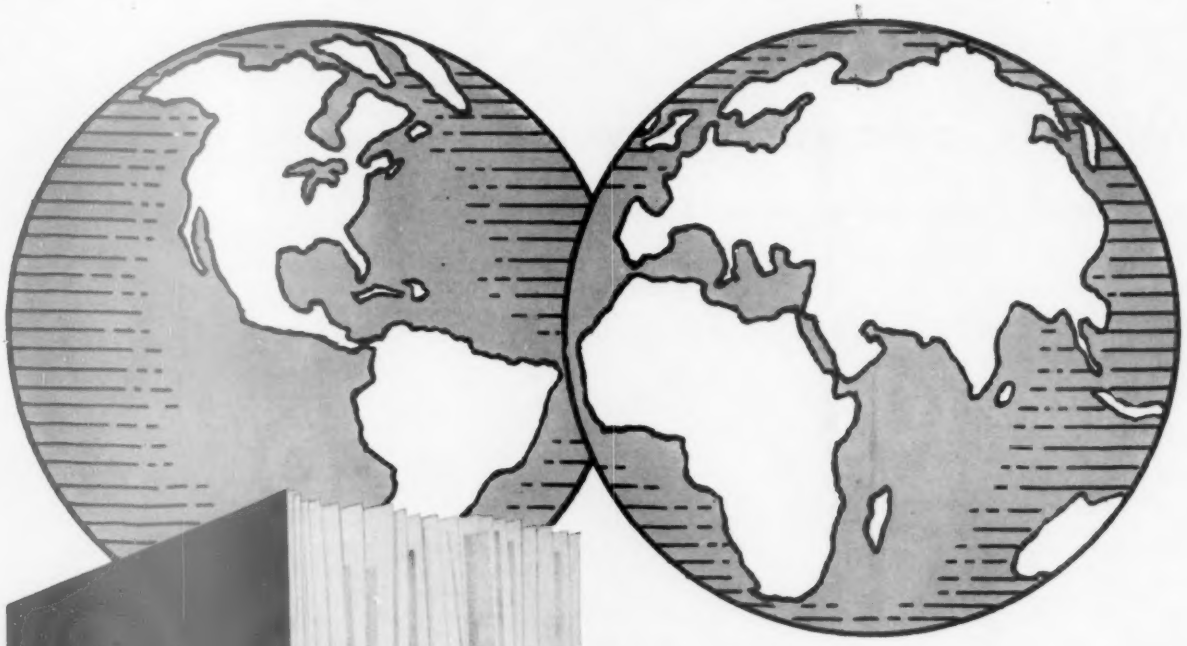
Associated Newspapers publishes the Daily Mail, Sunday Dispatch and other newspapers in the Rothermere group.

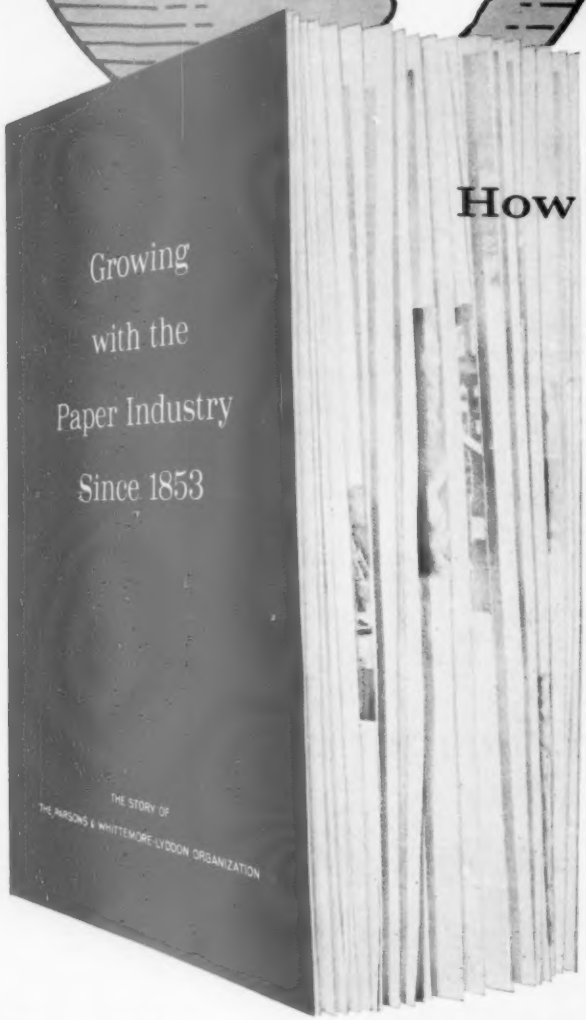
Price Bros. & Co., one of the oldest companies in the Canadian industry, operates pulp-paper mills at Riverbend, Jonquiere and Kenogami, all in Quebec. Anglo-Newfoundland Development Co.'s newsprint mill is at Grand Falls, Nfd.

Canadian newsprint increase

MONTREAL—Canada's newsprint mills produced 6,738,611 tons in 1960, shipping about 5,259,653 tons to U.S. publishers; 487,102 to Canadian consumers and 1,005,646 to other markets. Biggest increase was recorded by shipments to markets outside U.S. and Canada, which rose 20.4%.

Rated capacity of Canadian newsprint mills for 1961 is 7,734,058 tons, an increase of 122,864 tons over 1960 and an average increase of 220 tons/day, according to the Newsprint Assn. of Canada.





How Parsons & Whittemore develops Pulp and Paper Mill projects around the world

Business executives, industrialists and government officials often request information concerning the facilities and services of the Parsons & Whittemore/ Lyddon Organization.

To meet requests for such data, we have published a new, 40-page brochure which outlines the world-wide technical, financial, engineering and machinery-manufacturing facilities of the Organization. The booklet, which should prove especially valuable to those seeking to establish a paper industry in newly-developing countries, describes 25 pulp and paper mill projects recently completed or in course of completion, on four continents, using twelve different raw materials.

We shall be pleased to send you a free copy of "Growing with the Paper Industry Since 1853." Address your request to any of our offices listed below.

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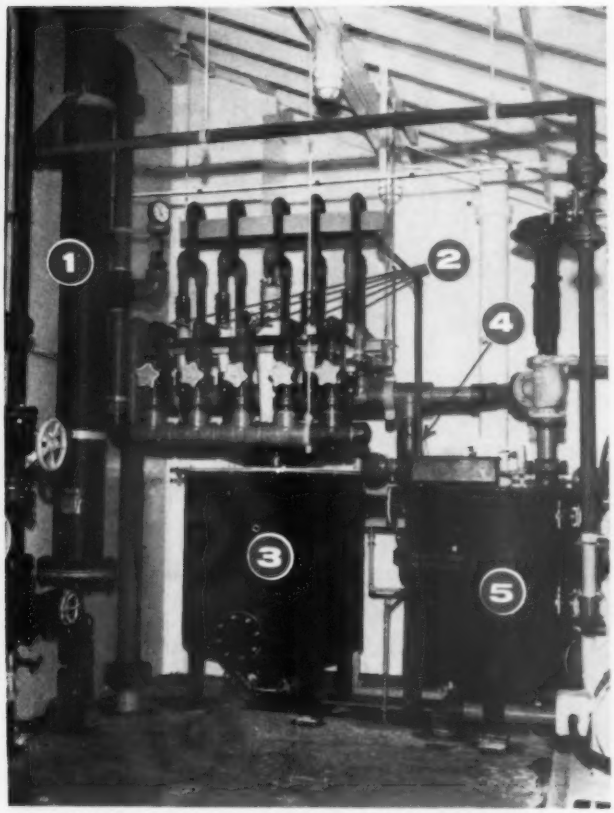
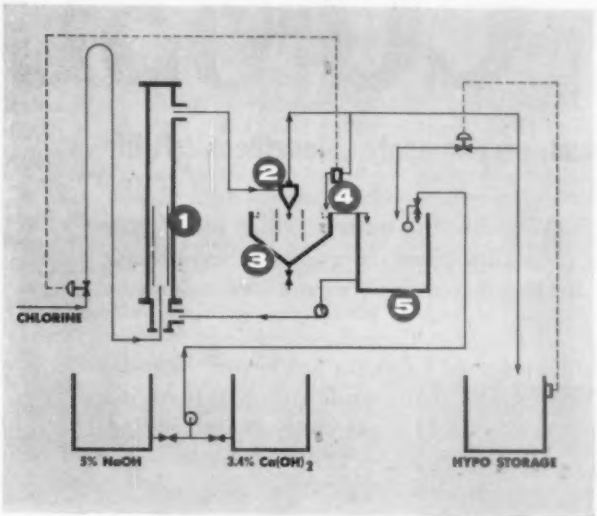


ABOVE: Installation of Pennsalt Continuous Hypochlorite Reaction Tower at the Elk Falls Co., Ltd. mill, Campbell River, B. C.

BELOW: Flow diagram of the continuous system as installed in the Elk Falls mill. **1.** PENNSALT HYPOCHLORITE REACTION TOWER, **2.** CENTRIFUGAL SEPARATORS, **3.** SLUDGE SEPARATING TANK, **4.** ELECTRODES, **5.** SURGE TANK



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It was found that capital expenditure, space and labor can be saved when this system is installed in a new mill. In existing mills, the continuous equipment can be superimposed on present batch bleach liquor plants, resulting in labor saving, and more efficient chemical usage.

20,000 to 250,000 gallons bleach liquor per day . . . Pennsalt Reaction Towers now installed at various mills are producing from 20,000 to 250,000 gallons of calcium or sodium bleach liquor per day. System brochures, flow diagrams, and engineering drawings are available to fit your particular needs.

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"Seek Challenge Not Security"

is message to students at Maine Open House-Research Days

By A. W. W.

ORONO, MAINE – After recounting many reasons why the paper industry offers a career more secure than the average, Fred Herbolzheimer, Jr., completely "reversed his field," to borrow a sports page term, and told an audience of college and high school students here to look instead "for the most stimulating personal challenge." He added, "The paper industry offers such a challenge."

Mr. Herbolzheimer was selected to keynote the Apr. 28th University of Maine 10th Annual Pulp and Paper Open House because he is himself an example of this industry's opportunities for youth. Just 13 years after completing his U. of Maine education, (interrupted by war service) with a master's degree, he was this year chosen vice president for manufacturing of Thilmany Pulp & Paper Co., an outstanding 250-tons per day specialty kraft mill.

Big thrill for the speaker was that his father, Fred Herbolzheimer, sales mgr. of C. M. Rice Paper Co., Concord, N.H., was in a front row. His audience of 230, biggest in Open House history, included presidents and other top executives of many of the biggest pulp and paper and supply companies of the nation.

"If seeking challenges sounds a little naive, may I suggest you look for the best environment in which you can serve?" went on the younger Mr. Herbolzheimer. "The man who says 'what can I offer this company' rather than 'what can the company do for me' is the one who seems to find the personal satisfaction he seeks."

Earlier he said he was "astounded" that so few realize how fast they can gain experience just by "expending a little more personal effort and mental stimulation than normally required."

The paper industry needs today "a disciplined and scientific approach to new marketing techniques," and "this business complex must be run by men who can think logically and know how to coordinate all these segments into a smoothly functioning team," said Mr. Herbolzheimer.

He told how the paper industry is vital to the U.S. economy–that it is 5th largest contributor to gross national product–that it is one of the ten largest industries–like steel it requires substantial capital for long-term operation–unlike electronics and chemical industries, competition "does not spring up around us overnight"–that paper is one of the fastest growing and yet most stable industries. In the U.S., he said, 60% of the world's paper is made, but is consumed by only 6% of the world population.

Mr. Herbolzheimer lauded the accomplishments of the Maine Pulp & Paper Foundation, in which many paper and allied companies seek to interest students in paper careers, provide loans, grants and scholarships, assist in developing advanced curricu-

SELECTED STUDENTS gave papers (l. to r.): Fred Kurrle, Richard Thompson, Kenneth Atwood, Stanley Marshall, Eugene Arsenault. Three are from Maine: young Kurrle from New Jersey and Marshall from Massachusetts.

FRED HERBOLZHEIMER SR. AND JR. Father heard son keynote the Maine meetings; center, Harry Moore, president of Beloit Irons Works, a strong supporter of the Maine Foundation program, arrives; right, Tom M. Barry, manager at East Millinocket, Me., mill of Great Northern Paper Co., one of hosts there to paper leaders who dropped in.

DR. WM. W. TOMLINSON (l), Temple U.; J. Larcom Ober (m), head of Foundation, and President Lloyd H. Elliott (r) of U. of Maine were leading participants; right, Mr. Ober, presiding at the meeting of the Foundation, with Harold Holden (r), chairman of membership committee, who announced 11 new members.

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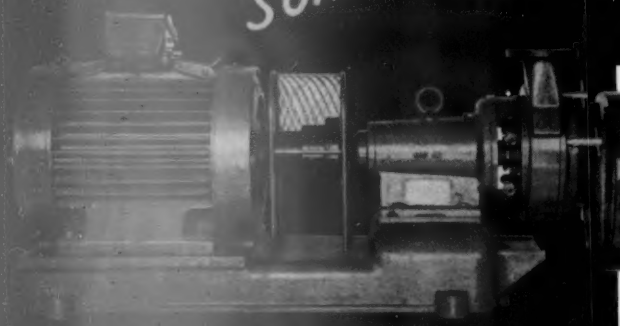

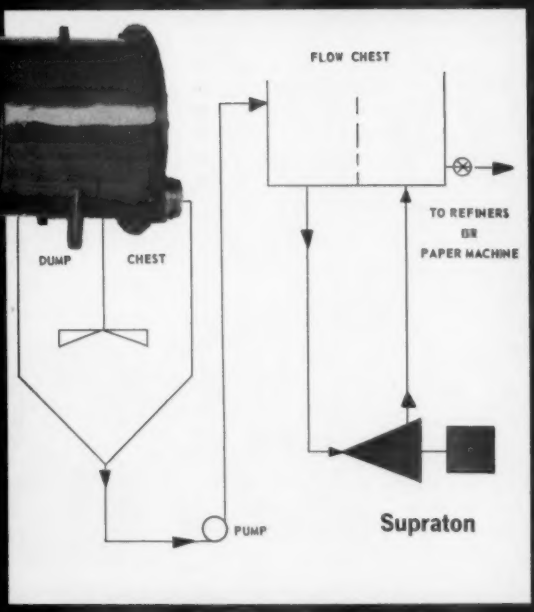

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lum, encourage promising students to elect operational management, help augment the faculty, and advance fundamental and applied research.

William H. Chisholm, president, Oxford Paper Co., luncheon chairman, said the Foundation's balanced budget has grown in 10 years from $11,000 to $110,000 and next year will be greater as scholarship needs increase.

Dr. Lloyd H. Elliott, U. of Maine president, said to pursue fundamental research will require a graduate program at Maine. He expressed concern that millions of new workers in the 1960s must have salable skills and professions or welfare rolls will grow.

"The great hunger of Asiatics for acceptance in the human family constitutes a herculean challenge to the U.S.," said the evening dinner speaker, Dr. William W. Tomlinson, vice president of Temple University.

He said the grave challenge to America is to "retain spiritual leadership" and Communism "would have men believe it has replaced American freedom as source of hope."

J. Larcom Ober, retired v. p. of Scott and president of the Foundation, presided at the dinner and at meetings of the Foundation members.

Harold Holden, president of Gilman Paper Co., is chairman of a continuing campaign to bring more new members into the Foundation. He reported eleven new members at the meeting. The Foundation now has 12 scholarship underwriters, 22 special gifts members and an additional 46 pulp and paper company members.

For the first time at Maine the Foundation brought high school students from out of the state to the Maine Open House. There were 26 high school students this year. Foundation members invited them. George Olmsted Jr., president of S. D. Warren Co., Dr. Elliott, Dean Weston Evans and James Harmon of the University, addressed the boys and they also were entertained by the University. Last year, the first time this was tried, 16 Maine high school students attended and later 10 of them entered the Maine pulp and paper school.

Paper school university students, and especially the seniors, played an important part in the program, too. They presided in a panel with industry men on "Utilization of Technical Manpower" with Prof. Lyle C. Jenness, head of the paper school, presiding. There was a many-ringed simultaneous demonstration of research projects on two floors of Aubert Hall, with Prof. Richard Durst in charge.

Selected students launched the day's program with Prof. Andrew Chase presiding. An unusual feature was that the audience—students, industry leaders, faculty—were invited to cast secret votes in ballot boxes for "best" of three papers.

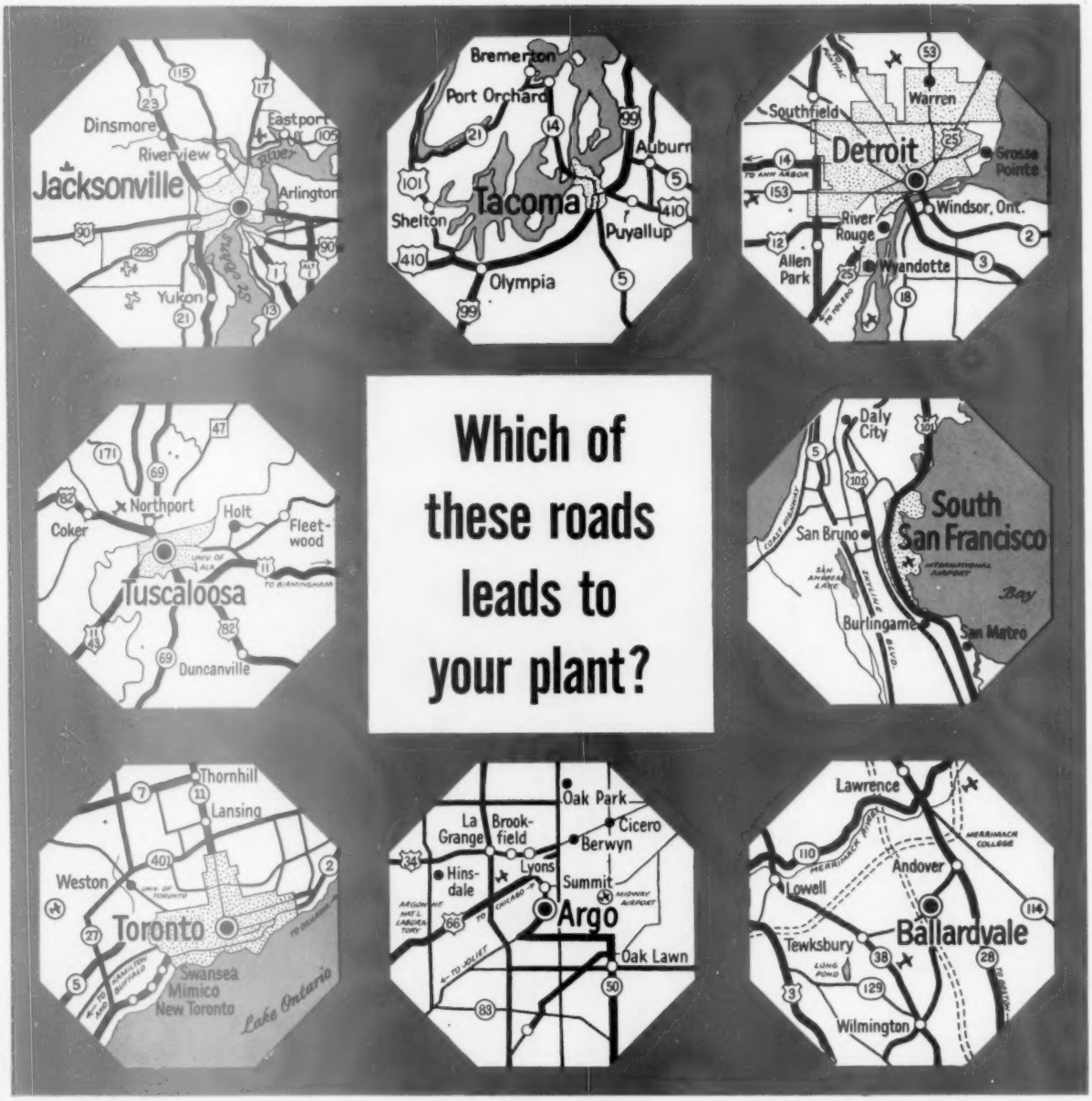
Winners were Eugene Arsenault and Allen Charles who discussed "chip damage effect." They found freezing chips, before cooks, decreases liquor demand and cooking time and increases strength—a challenge to industry, they said, to make further studies.

Stan Marshall and Ken Atwood, on "pipe fittings" said future flow systems may use smaller pumps if they take advantage of pressure differences all along a system. Richard Thompson and Fred Kurrle discussed "nitric acid pulping" and said if a good recovery system could be developed, it would give valued characteristics "between kraft and sulfite." ■

COLIN GARDNER (l), vice pres., Standard Packaging Corp.; Frederic A. Soderberg (m), vice pres., Huyck Corp. and Foundation vice pres.; Hugh Morton (r), prod. mgr., S. D. Warren Co., and newly named publicity director for the Foundation. Mr. Ober (l), Foundation leader, chats proudly of young blood coming into industry with another veteran, Stuart E. Kay (r), vice pres., International Paper Co.

WILLIAM H. CHISHOLM (l), president of Oxford Paper Co., and Charles E. Crossland, executive secy, of the Foundation. William Caddoo (l), vice pres., Contiental Can Co., and Ralph A. Wilkins (r), president, Bird & Son Inc., and treasurer of the Foundation.

WILLIAM BRIGHT, vice president, Rice Barton Corp., representing his company at Maine events. Olin Callighan (l), Minerals & Chemical Corp. of America, back to his Maine Alma Mater; Dr. Richard E. Durst of Maine faculty, who was in charge of research exhibits, and Tom Morganstern, Minerals & Chemicals Corp., Boston. Walter Shorter, vice pres., Union Bag-Camp Paper Co.



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Rayonier charts new growth projects

NEW YORK—News about its new plants dominated Rayonier Inc's. annual report. Regular shipment of quality bleached kraft pulps from the new Woodfibre, British Columbia, mill on a salt water inlet just a short distance north of Vancouver, to markets all over the world, is to begin in May. Rated capacity is 85,000 tons a year. The new product from western wood is to be called "Fibrenier." Woodfibre was formerly a sulfite mill. Chips from two sawmills will be the major raw material.

Rayonier's papermaking pulp sales increased by 35,000 tons to 140,000 tons in 1960, more than offsetting a decline of less than 17,000 in chemical cellulose sales (509,215 tons in 1960).

In this connection, Rayonier said, "the market for chemical cellulose and papermaking pulps is world-wide and is growing. Nearly everywhere in the free world, standards of living are improving and there is greater prosperity in many countries, particularly in Europe."

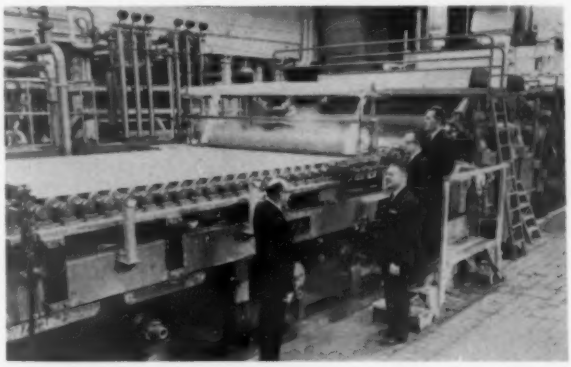
The second paper machine at Grays Harbor Paper Co., owned by Rayonier and Hammermill, comes into production in the fourth quarter, making fine papers. A new sodium base sulfite process and recovery plant replaces the ammonia sulfite system at Grays Harbor, in Washington state, in early fall. At the same time a new 200 ton bleach plant at Grays Harbor will supply needs of the expanded paper mill.

At Port Alice, in west Canada, Rayonier has added a lined sulfite pulp digester. The Fernandia, Florida, mill has raised the volume of water reclaimed for daily re-use in the pulp mill to 7,000,000 gallons by an improved clarification system. ■

Kimberly-Clark reports on new projects

NEENAH, WIS.—A new paper machine started up here in March boosting the capacity of the Neenah Paper Div. by 50%. Start up of the machine, completely rebuilt from a machine originally installed in 1921, climaxes a year of modernization at this three-machine mill. The machine is designed to produce up to 35 tpd of fine writing papers and specialty sheets making a complete range of cotton content and mixed wood and cotton fiber grades.

Kimberly-Clark also has awarded a general contract for installation of a new high speed coated printing paper machine at its Niagara, Wis., mill to the Cherne Co., Inc. of Ironwood, Mich. Start up of the 170 in. machine is slated for late 1961. It will be in a 100,000 square foot building.



FINE PAPER MACHINE at Neenah, Wis., started up in March. Inspecting the machine are (from left) D. H. Severson, mill mgr.; D. A. Hardt, mgr. of Kimberly-Clark's business papers sales; A. D. Wilkinson, vice pres., mfg., and W. B. Meyer, vice pres., sales.

The idle Robertson Bleachery at New Milford, Conn., is being acquired by K-C to make non-woven fabrics developed by Kimberly-Stevens Corp., a jointly owned subsidiary of Kimberly-Clark and J. P. Stevens Co., Inc. The bleachery is near K-C's. cellulose wadding converting plant in New Milford. The new property involves 31 acres and four buildings with 200,000 sq. ft. floor space. ■

Mining company may build mill in Canada

VANCOUVER, B. C.—One of Canada's biggest mining companies, Noranda Mines of Quebec, has been negotiating with National Forest Products, Ltd., of Vancouver, to acquire some of its sawmills, and reports here indicate the ultimate objective is to establish a pulp mill in the Prince George district.

The sawmills owned and operated by National are in the interior of this province and three of them, possessing tree farm licenses covering extensive timber limits, are near Prince George.

At the recent session of the British Columbia legislature the government put through legislation providing for creation of pulpwood harvesting units in the interior whereby projected pulp mills would be guaranteed security of wood supply. There are several hundred small sawmills and planing plants in the Prince George area, where government spokesmen have claimed there is sufficient wood residue for at least one 300-ton pulp mill.

Prince George has been regarded as a logical location for such a mill since the 1920's when powerful eastern Canadian interests acquired wood and power rights, which, however, were never used.

Noranda Mines ranks among the first half dozen mining enterprises in Canada and is one of the nation's biggest producers of copper and gold. It recently became an important factor in British Columbia iron mining. Following a trend set by other big mining companies, Noranda is anxious to broaden the base of its operations by diversification. This would be Noranda's first move into the forest industry, according to Pres. John R. Bradfield of Toronto. It is generally felt that Noranda would not be interested in sawmills alone, but would prefer the greater stability of pulp manufacturing, especially in view of the recent enabling legislation.

One of the National Forest Products' mills, John Luttin, Ltd., at Keremeos, has been listed for some time by the provincial government as a prospective pulp manufacturer. ■

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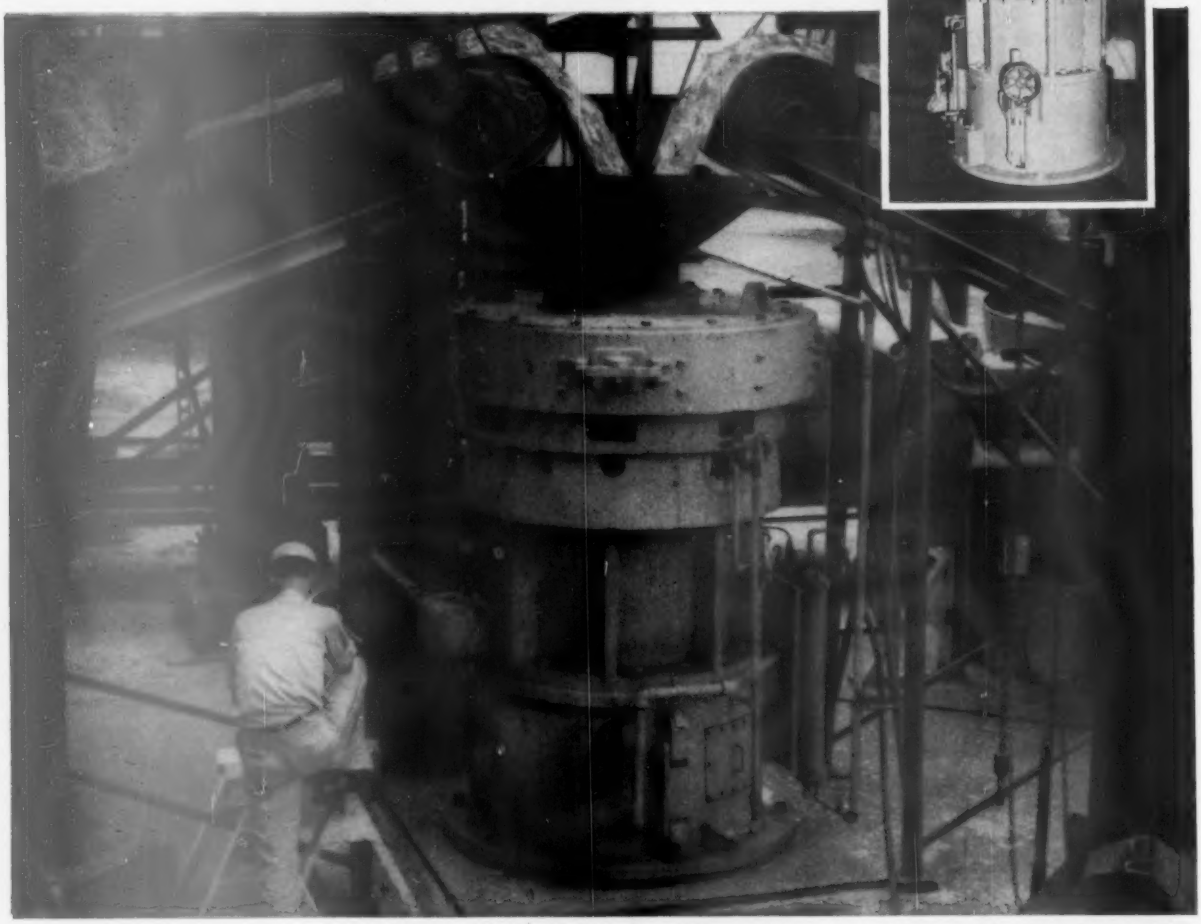


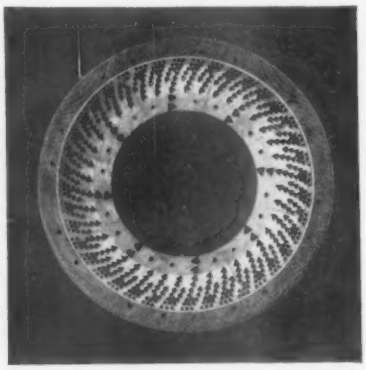
Vertiflex requires minimum floor space. Available in two disc sizes — 48" (shown here) and 34".

Typical application..... Chip Shredding

High quality pulp with extremely low waste and fibre damage, substantial savings in alkali used, increased yield, decreased screen rejects and lower recovery system loading — those are the results from this efficient Jones Vertiflex chip shredding installation. And energy required to process more than 2000 B.D. tons per day is just over ¼ HP days per ton!

Full size chips are fed to the Vertiflex by belt conveyors from two chip silos. Resulting "shreds" are as long as the original chips, but greatly reduced in cross section.

Other applications on which the Jones Vertiflex will perform with outstanding efficiency include cold caustic chips, high yield pulps, bagasse, high density bleaching and denoodling. For full details write to E. D. Jones Corporation, Pittsfield, Mass.



Teeth in vertically mounted rotating disc inter-mesh with teeth in opposing stationary plate mounted in Vertiflex cover. Clearance is easily adjustable and disc life is high since there is never any metal-to-metal contact. Teeth shape and arrangements are varied to fit the application.

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Investigations are being carried out by Sandwell & Co., for John Shaheen, New York financier, to determine the economic feasibility of large-scale pulp-paper operations in Canada's resources-rich Labrador area and Newfoundland.

Mr. Shaheen heads Newfoundland Pulp & Chemical Co., which has exclusive rights to 70,000,000 cords of high quality black spruce in Labrador. The same interests hold a lease on 22,000 square miles of Crown forest lands in the southwestern part of Newfoundland which could supply the raw materials for a third mill in the island province.

The way has been cleared by the New Brunswick government for Rothesay Paper Corp. to proceed with construction of a $32,000,000 newsprint mill on Courtenay Bay in East St. John.

Work is expected to get under way this summer to provide for the mill's going into production within two years. Initial production is expected to be 140,000 tons a year.

Sogemines, Ltd., holding company for Belgian interests in Canada, is majority shareholder.

Premier Robichaud says the new legislation will give Rothesay title to 110 acres adjoining a 91-acre site given St. John Shipbuilding & Dry Dock Co. in a settlement of a property dispute between the two groups.

W. L. Forester, pres. of Sogemines, says production from the new mill will be mainly for export. His company has an extensive interest in many eastern Canadian industrial enterprises in the mining, cement and chemical fields. ■

Field Paper Box builds new plant

CHICAGO—Field Paper Box Co., largest independent producer of folding and set-up boxes in the Chicago area, moves a $750,000 manufacturing plant and office early this summer in Centex Industrial Park, Elk Grove Village, a northwest suburb of Chicago. It will be a one-story, 70,000 sq. ft. plant to be built on a 300,000 sq. ft. site, with curtain wall construction to permit easy expansion. When the building is completed, the firm will have added 22,000 sq. ft. to its production facilities.

The firm is one of few independent companies producing processes such as latex pressurized sensitive box ends for folding boxes, latex cards and heat seal, bubble and blister pack, and heat seal for frozen food packaging. Production area in the new plant will be allocated for additional specialized machinery. Among the many industries it serves: Toy, candy and confectionary, dairy, electrical, hardware, sports, automotive and plastics.

In addition, a subsidiary, Field Paper Products Co., maintains one of the largest inventories of stock folding and set-up boxes. Its stock on hand includes more than 50 various size boxes for immediate distribution. Both firms will operate from new plant. ■

Stauffer builds sodium sulfate plant

WESTEND, CALIF.—West End Chemical Co., a Division of Stauffer Chemical Co., has started work on an additional sodium sulfate production unit at Westend, California. Scheduled to be on stream by early summer of 1961, the expansion will raise sodium sulfate output to 20,000 tons per year.

West End began its operations at Searles Lake in 1927 to recover soda ash and borax from the brine deposits. In 1955 the company installed facilities to produce high grade natural sodium sulfate. A second unit was added in 1957. The current addition is the company's third sodium sulfate expansion.

G. C. Ellis, president and general manager, West End Chemical Company Division, said that the increase in capacity is being added to accommodate both the existing growing demand for sodium sulfate and in anticipation of still further growth. West End's output of sodium sulfate is sold nationally, primarily to the pulp and paper and detergent industries. ■

American Manufacturing opens new plant

TACOMA, WASH.—American Mfg. Co., Inc., Tacoma, has opened a brand new plant in the Commerce St. industrial district of Tacoma, devoted exclusively to volume production of their famous line of scissors lifts.

The new plant occupies about 40,000 square feet of space and enables speedy handling of orders—in at 9 and enroute by 4 P.M.

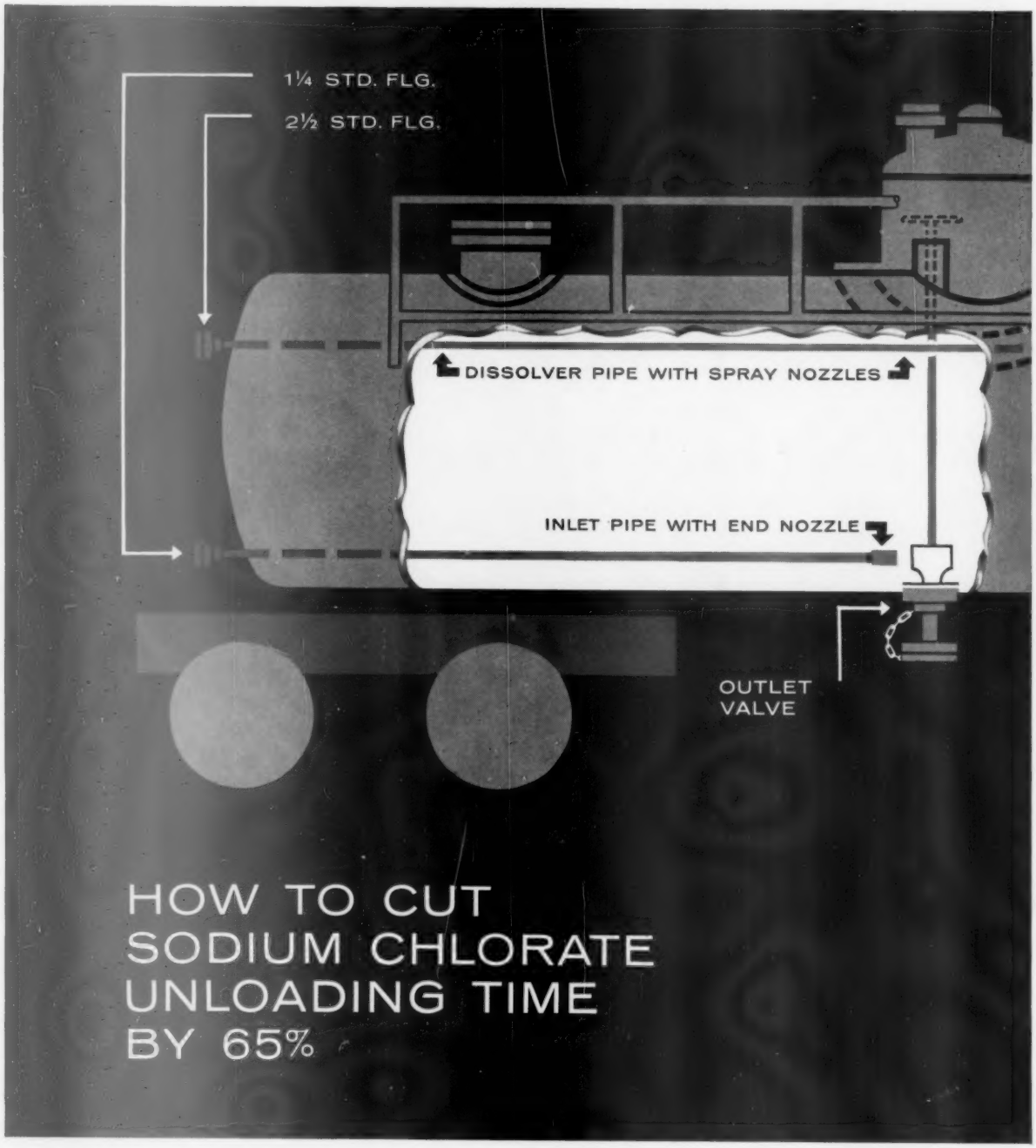
The four major series of American lifts have capacity from 1,000 lbs. to 24,000 lbs. and vertical lift from 24 to 60 inches. Over 55 varieties of these four principal lines of lifts are produced to meet requirements of every type of industry or special situation in distribution of products & warehousing operation.

First of the newest variation of the American Scissors lift is in the finish room of The Northwest Paper Co. at Cloquet, Minn. ■

Theme of 16th Engineering Conference: "Economic Solutions"

TAPPI's 16th Engineering Conference will be held Oct. 16-19 at the Shoreham Hotel in Washington, D. C. Division chairman M. J. Osborne, Bowaters Southern Paper Co., announces the theme will be "Economic Solutions Through Engineering." The technical program is being developed by G. E. Shaad, General Electric Co.

Ben Cancell, executive vice president, St. Regis Paper Co., will give the keynote address.



HOW TO CUT SODIUM CHLORATE UNLOADING TIME BY 65%

You can unload these 40- and 50-ton Hooker tank cars of sodium chlorate in about 90 minutes—roughly 2½ hours faster than before. You save that much on supervisory and labor costs as well as important time.

How the system works

1. Free the outlet valve with hot water pumped through the lower inlet pipe.
2. Pump hot water through the bottom outlet to approximately fill the tank.
3. The chlorate slurry thus formed is drained from the bottom outlet.
4. Hot water is then pumped through the upper dissolver pipe until all of the chlorate is completely dissolved.

Result: you cut unloading time by 65%.

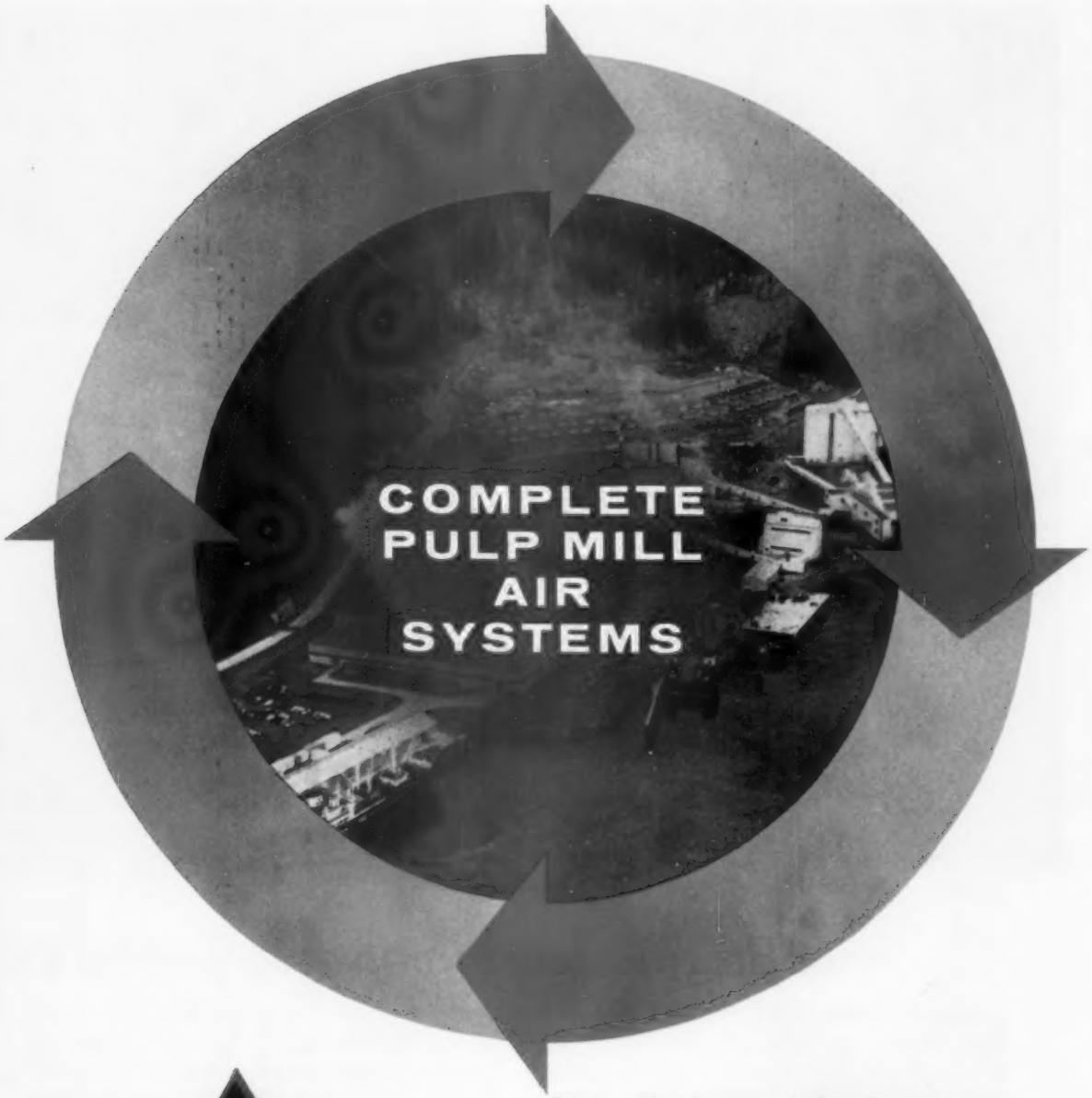
Only Hooker tank cars give you this uniquely designed "fast-flow" feature. It will pay you to check Hooker technical service on all phases of handling, storing, and using sodium chlorate. For further details, ask for Bulletin 99, "Handling Sodium Chlorate."

HOOKER CHEMICAL CORPORATION

HOOKER CHEMICALS PLASTICS

1905 FORTY-SEVENTH STREET, NIAGARA FALLS, NEW YORK

Sales offices: Buffalo, Chicago, Detroit, Los Angeles, New York, Niagara Falls, Philadelphia, Tacoma, Worcester, Mass. *In Canada:* Hooker Chemicals Limited, North Vancouver, B. C.



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Ross Engineered Air Systems air in all vital mill areas including...

Wash and bleach plant, chipper room, machine room, digester house, screen area, cutter and finishing room, turbine room, chemical preparation area, acid plant and testing laboratory.

Complete, balanced air systems so important in today's pulp and paper production, from one responsibility.

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M-R

Bright idea in paper...

Turning a paper container into a pirate ship is a fun-idea. But the idea uppermost in the minds of paper makers is producing whiter, brighter, stronger papers. Including coated paper containers, moisture-resistant enough to sail the wildest creek!

Yes, paper makers are constantly devising new ways to make paper better. And Becco is working hand-in-glove with them.

Just recently, for example, we installed the Becco Refiner Bleacher Process in three mills producing cold soda pulp. This process produces a quality pulp and, because of its simplicity, saves on actual processing costs while increasing output per unit of space.

Could your paper benefit from Hydrogen Peroxide? Becco, with more years of bleaching experience than any other H_2O_2 producer, would be happy to be of service to you. Just write us, describing your fields of interest. Address: Dept. PP-61-12.

BECCO Hydrogen Peroxide

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FOOD MACHINERY AND CHEMICAL CORPORATION

Becco Chemical Division

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Ralph M. Shaw new head of MB&PR

VANCOUVER, B. C.—Ralph M. Shaw, who was president of MacMillan & Bloedel at the time of the merger with Powell River Co., is now president of MacMillan, Bloedel & Powell River, Ltd., although J. V. Clyne continues as chief executive officer. Mr. Shaw succeeds M. J. Foley (See item below).

Senior officers of the company have been confirmed as follows: E. G. Shorter, exec. vice pres., with responsibility for all company production, forestry and timberland management and the departments of engineering and labor relations; I. H. Andrews, vice pres., planning, research and development; G. S. J. Bowell, vice pres., pulp and paper sales; Clifford Crispin, vice pres., wood products sales, advertising and trade promotion; G. D. Eccott, vice pres., finance; W. C. R. Jones, vice pres., specialty paper production; A. C. Kennedy, vice pres., labor relations; J. A. Kyles, vice pres., admin. and sec'y; H. P. J. Moorhead, vice pres. engineering. ■

SHAW

M. J. Foley joins Anglo-Canadian as v.p.

M. J. FOLEY

QUEBEC—M. J. ("Joe") Foley, who recently resigned as president of MacMillan, Bloedel & Powell River, Ltd., Vancouver, B. C., has been elected vice president of Anglo-Canadian Pulp & Paper Mills, Quebec. He will also serve on the board. Announcement of Mr. Foley's election to the new posts was announced by President & General Manager W. E. Soles.

Harold S. Foley, who headed the Powell River organization as chairman of the board prior to PR's merger with MacMillan & Bloedel, has retired as deputy chairman of MB&PR, and H. R. MacMillan has retired as honorary chairman.

Both Harold and Joe spent many years in the lumber business in Florida and elsewhere in the South before going to Vancouver to take top executive posts with Powell River Co. ■

LATE ANNOUNCEMENTS: E. B. Hinman has been named pres. of Canadian International Paper Co. . . . A. A. Yankowski, dir. pulp mfg., Kimberly-Clark, has moved to Irving Pulp & Paper Ltd., K-C Canadian assoc., as mill mgr.

Bialkowsky, aide to Stora (US) president

NEW YORK—One of the first important assignments for Dr. Harold Bialkowsky, newly appointed assistant to the president and director of cellulose research and product development for Stora Kopparberg Corp., will be a flying trip to Sweden in early June.

He will be accompanying President Karl Clauson and Vice President Robert L. Nash from the New York company. These meetings assume great importance as the Swedish Skutskär mill is doubling production of Stora's soda base sulfite pulp (cooked in two stages) and the new Stora mill on Breton Island, Nova Scotia, starts production of this pulp next January.

Mr. Clauson will introduce Mr. Nash and Dr. Bialkowsky to Stora men from many countries. They will hold seminars for three days at Falun, headquarters of the parent firm, two days in Skutskär, where the new machines have started up, and in Stockholm the first and last days.

Native of Holyoke, Mass., Dr. Bialkowsky has made his home in Everett, Wash., and Longview, Wash., since 1941, first as assistant research director and later as research director for the pulp division, Weyerhaeuser Co.

Dr. Bialkowsky was one of the first two graduates of the Institute of Paper Chemistry, Appleton, Wis. (the other, Dr. Roy L. Davis, of Scott Paper Co.). Dr. Bialkowsky graduated from MIT in electrochemical engineering; received his m.s. and ph.d. at Appleton.

DR. BIALKOWSKY

He started in the industry with American Writing Paper Corp., Holyoke; from 1933 to 1941 was with Gilbert Paper Co., Menasha, Wis. ■

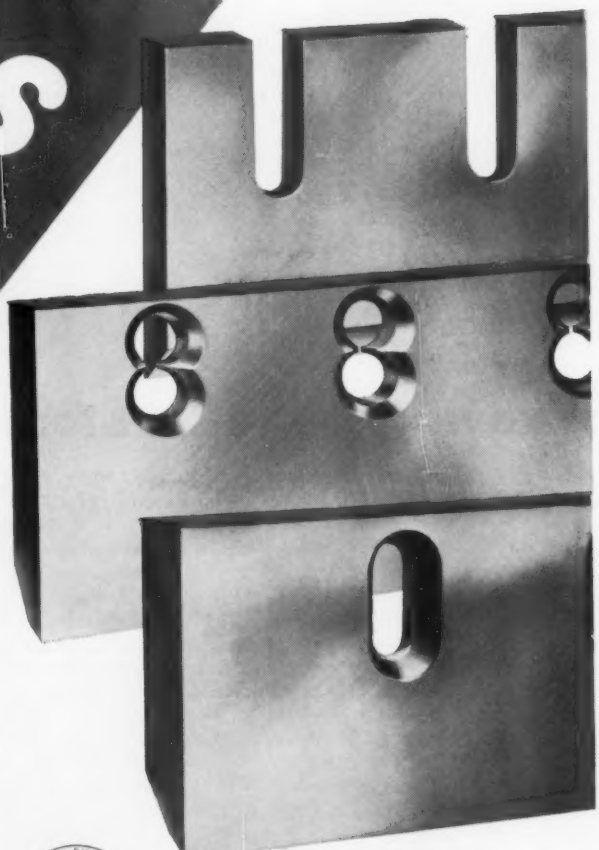
Rayonier names Brown, Forrest v.p.'s

NEW YORK—L. J. Forrest and Michael A. Brown have been elected vice presidents of Rayonier Inc. Mr. Forrest manages the Northwest Timber Division and becomes the company's ranking executive in the Pacific Northwest. Mr. Brown is in charge of sales with headquarters at New York.

Mr. Forrest became head of Ray-

Get the DUST OUT of your PROFITS

... with SIMONDS T-18 CHIPPER KNIVES



More usable chips . . . clean-cut and uniform in size . . . with a minimum of slivers and dust . . . that's what you get with SIMONDS T-18 KNIVES on your chippers.

One reason is Simonds Technical Chipper Service. "The man from Simonds" knows how to squeeze the most out of any chipper operation. He saves companies hundreds of thousands of dollars every year.

The other reason is Simonds Chipper Knives themselves. They have an extra toughness and edge-holding quality that means big savings in the long run. What's more, Simonds is "right around the corner" and can give you fast, dependable delivery.

Learn the full money-saving facts. Write for details today.

INDUSTRIAL DISTRIBUTORS — THE RIGHT HAND OF PRODUCTION

SIMONDS SAW AND STEEL CO.

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Buy through your local Simonds Distributor for "TRIPLE-S-SERVICE" — Local Stocks – Local Speed – Local Skill

Factory Branches in Union, N. J., Chicago, Shreveport, La., Los Angeles, San Francisco, Portland, Ore. • Canadian Factory in Granby, Que. • Simonds Divisions: Simonds Steel Mill, Lockport, N. Y.; Heller Tool Co., Newcomerstown, Ohio; Simonds Abrasive Co., Philadelphia, Pa. and Arvida, Que., Can.

onier's Northwest Timber division in 1958. Under his direction the division carries out extensive forestry research programs. In addition to directing the company's timberland activities in the Northwest, as vice president of Rayonier he will look after the company's over-all interests in the Northwest.

Mr. Forest, long active in industry associations, is president of Associated Industries of Washington (thus is spokesman for industry in the state); he has also served in the Industrial Forestry Assn., Western Forestry Conference, and Washington Taxpayers Assn.

FORREST

BROWN

Mr. Brown, a native of Philadelphia and a graduate of the West Philadelphia Catholic High School for Boys and Wharton School of Finance and Commerce of the University of Pennsylvania, class of 1938, joined Rayonier in 1952 as manager of sales promotion. Since 1955 he has been general manager of sales, responsible for all the company's sales activities.

He has been identified with Rayonier's active support of such customer groups as Tyrex Inc. and the International Rayon and Synthetic Fibers Committee headquartered at Paris, France. He is president of Rayonier Lumber Sales Incorporated and of Nihon Rayonier Kabushiki Kaisha, Osaka, Japan; and vice president of Rayonier Export Corporation and of Rayonier Industries Limited. ■

Swanson retires as Kimberly-Clark v.p.

NEENAH, WIS.—Walter H. Swanson, recognized international authority and developer of pulping processes, received the 1958 TAPPI Gold Medal for outstanding contributions to industry. He was TAPPI president for two terms (his Medal award address on science-industry relations was published in PULP & PAPER, April 1958).

Mr. Swanson studied forestry at the Univ. of Minnesota, where he received a bachelor's degree. He received his master's in forest by-products from the Univ. of Wisconsin.

Joining Kimberly-Clark as a research man in 1927, "Swanny" Swanson was named assistant vice president and director of research and development in 1951, and vice president in charge of the Research and Development Center two years later. He participated in much of Kimberly-Clark's post-war expansion, particularly construction of pulp mills at Terrace Bay, Ont., and at Coosa Pines, Ala. He continues as a director of Coosa River Newsprint Co., and as an industry consultant. ■

SWANSON

Appleton retires, Hovey heads operations

NEW YORK—Oxford Paper Co. has elected Philip L. Hovey as vice president, operations. His promotion to this new post coincides with May 1 retirement of Donald Appleton, vice president. Mr. Hovey will be responsible for manufacturing, engineering, purchasing and traffic.

Mr. Appleton, a Harvard U. graduate, joined Oxford in 1936 as asst. mill mgr., of the Oxford Miami Paper Co. His previous experience had been with Great Northern Paper Co., and Champion-International Co. He successively held positions of mill mgr., asst. vice pres., mfg., and vice pres., mfg. He has been vice president, a director and member of Oxford's executive committee since 1957. He continues as a director and member of the executive committee.

APPLETON

HOVEY

Mr. Hovey joined Oxford in 1939 after graduating from Yale U. He worked in various departments at Rumford and West Carrollton, from 1941 to 1948 was in sales in New York. He transferred in 1948 to manufacturing and became mill manager of the Oxford Miami mill in 1949. He returned to New York in 1954 as asst. vice pres., mfg.: was elected vice pres., mfg. in 1957, a director in 1960. ■

We Dunn Him Wrong

We regret to report a case of mistaken identity on page 50 of our May 1 issue. Pictured was Paul Dunn, St. Regis. It should have been T. T. Dunn, Union Bag-Camp, shown above.

Mathieson SQUEEZES your caustic delivery costs

How? Many ways. For example, in most areas, you can order 73% Mathieson caustic soda by truck. The benefits to you are obvious. This concentrated solution means fewer deliveries, less shipping weight, less transportation cost. And only Olin Mathieson offers you this convenient truck delivery.

More ways Mathieson squeezes delivery costs? Location. Mathieson has eight producing plants and shipping points (with a ninth under construction) covering the industrial South and East, with barge, rail or truck shipments to suit your needs. Convenient truck scheduling: we time deliveries when you need them. Service: as you have a right to expect, it's part of company policy, backing every Mathieson chemical with technical assistance. For full details, write OLIN MATHIESON, Baltimore 3, Maryland.

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CHEMICALS DIVISION Olin

5 OF THE 19 STEEL STRUCTURES CB&I FURNISHED FOR WARREN'S MUSKEGON, MICHIGAN PULP MILL

ABOVE (bottom to top of photograph)

1. 122-foot waste clarifier
2. 137-foot cone roof water reservoir
3. 190-foot water clarifier

BELOW (left to right in photograph)

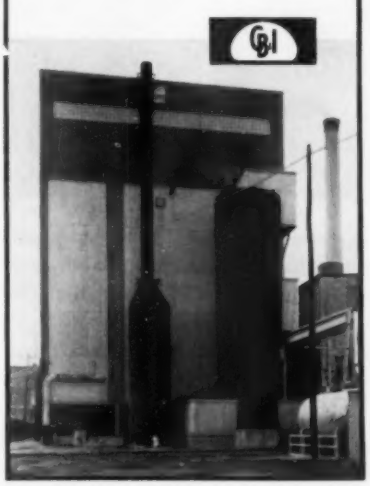
4. 56-foot chlorination tower
5. 40-foot foam tower

Questions of Bigness and Quantity Never Frighten Our Pulp and Paper Experts

Steel clarifiers 190 feet in diameter, steel water reservoirs 137 feet across, towers 57 feet tall—are typical of CB&I storage structures and process equipment at S. D. Warren Company's Muskegon, Michigan pulp mill.

If it is built of steel or alloys, so successfully fabricated by CB&I to combat corrosion, there are few processing and storage structures CB&I doesn't furnish. CB&I design engineers, fabricating craftsmen and erection experts have years of experience in building steel plate work for the industry.

That's why when your quests are for bigger and more efficient storage and processing units to meet your requirements, you should call on CB&I.



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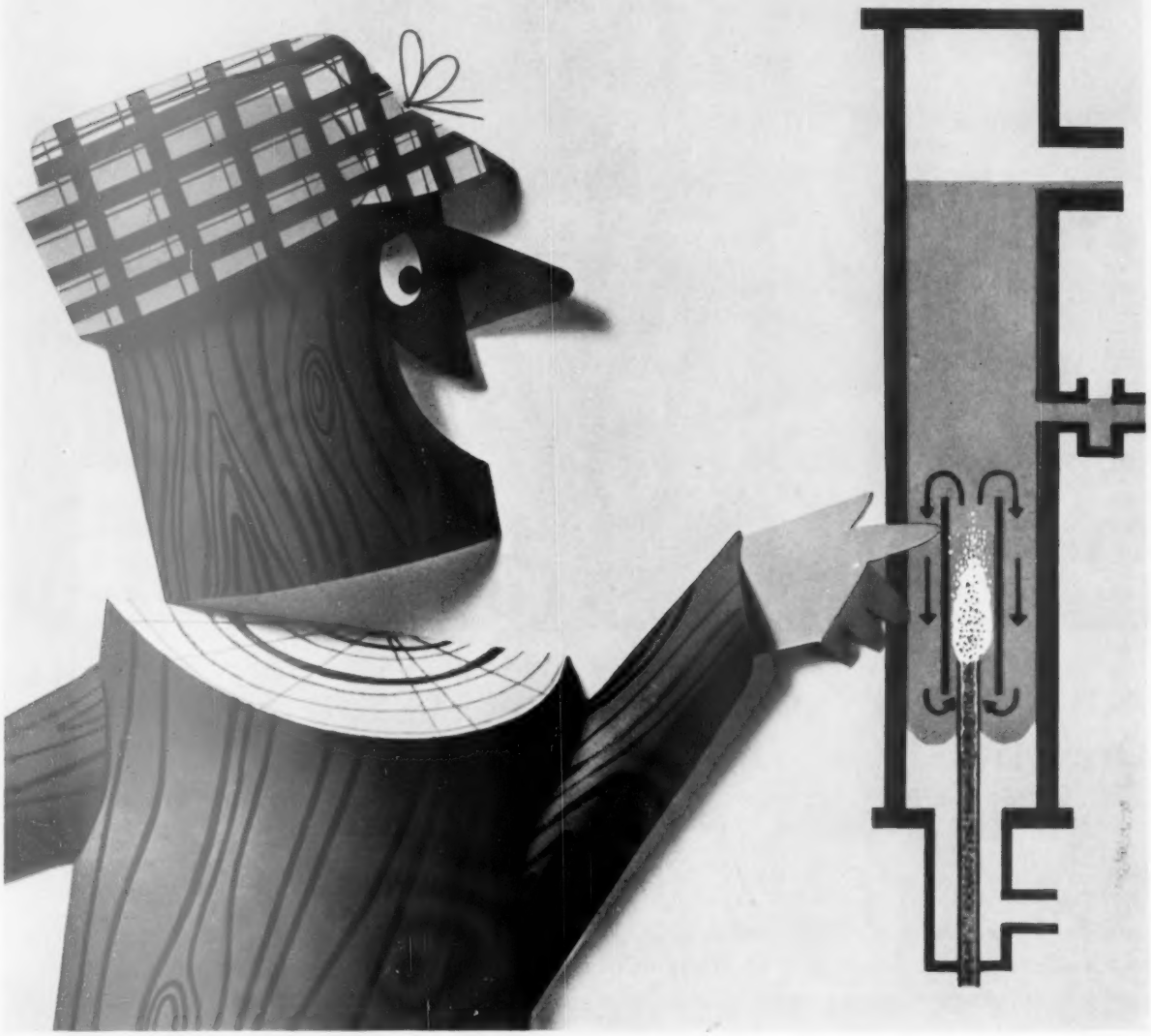
332 South Michigan Ave., Chicago 4, Ill.
Offices and Subsidiaries Throughout the World

CB-619

let Pennsalt Technical Service help you cut bleach liquor costs



Pennsalt technical service has helped many of our customers convert their low-capacity batch-type bleach liquor systems to modern, continuous hypochlorite reaction towers. These high-capacity towers . . . developed by Pennsalt . . . reduce chemical, labor and maintenance costs, and improve liquor uniformity. We'll be glad to help you modernize your own bleach liquor system, and to provide drawings that your shop or a fabricator can use for construction.

This service is only one of the valuable extras you get when you use Pennsalt chlorine and caustic. You can get expert aid in all phases of chemical handling and storage, and help in applying other cost-cutting processes such as ORP (oxidation-reduction potential control) or the Pennsalt Dispersed Chlorine System for pulp chlorination. We'll also analyze your chemical requirements and help you set up the most economical purchasing schedule. Call our nearest office for information. Industrial Chemicals Division, PENNSALT CHEMICALS CORPORATION, Three Penn Center, Philadelphia 2, Pa.

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Pennsalt Chemicals
ESTABLISHED 1850

MEETINGS

. . . June

CPPA conference on Chemical Pulping and Bleaching, Saranac Inn, New York—June 7-9

PIMA National Meeting, Hotel Robert Meyer, Jacksonville, Fla.—June 7-9

Maine-New Hampshire and New England Sections TAPPI, spring meeting, Wentworth by the Sea, Portsmouth, N. H.—June 9-11

Institute of Paper Chemistry, Sixth Seminar, Appleton, Wis.—June 11-30

Michigan Div. PIMA and TAPPI, joint meeting, Gull Lake Country Club, Gull Lake, Mich.—June 20

Western Michigan University Pulp and Paper Conference on Electrical Engineering, Kalamazoo, Mich.—June 21-23

Zellcheming, Germany's annual technical meeting, Baden-Baden, West Germany—June 27-30

. . . August

TAPPI Lignin Symposium, Edgewater Beach Hotel, Chicago—Aug. 14-16

. . . September

New York-Canadian Div. PIMA, annual meeting, Saranac Inn, Upper Saranac Lake, N. Y.—Sept. 1-2

TAPPI, 11th Corrugated Containers Conference, St. Francis Hotel, San Francisco, Calif.—Sept. 6-8

CPPA, TAPPI, Fourth International Mechanical Pulping Conference, Edgewater Beach Hotel, Chicago—Sept. 19-21

NW Div. PIMA, fall meeting, Faust Hotel, Rockford, Ill.—Sept. 20-22

Northeastern Div., PIMA, Poland Spring House, Poland Spring, Me.—Sept. 21-24

British Paper and Board Makers Assn., International Fiber Bonding Symposium, Oxford, England—Sept. 25-29

. . . October

Southeastern & Southern Divs., PIMA annual fall joint meeting, Jung Hotel, New Orleans, La.—Oct. 11-13

Pennsylvania-New Jersey-Delaware PIMA, fall meeting, Claridge Hotel, Atlantic City, N. J.—Oct. 12-14

TAPPI Annual Engineering Conference, Shoreham Hotel, Washington, D. C.—Oct. 15-19

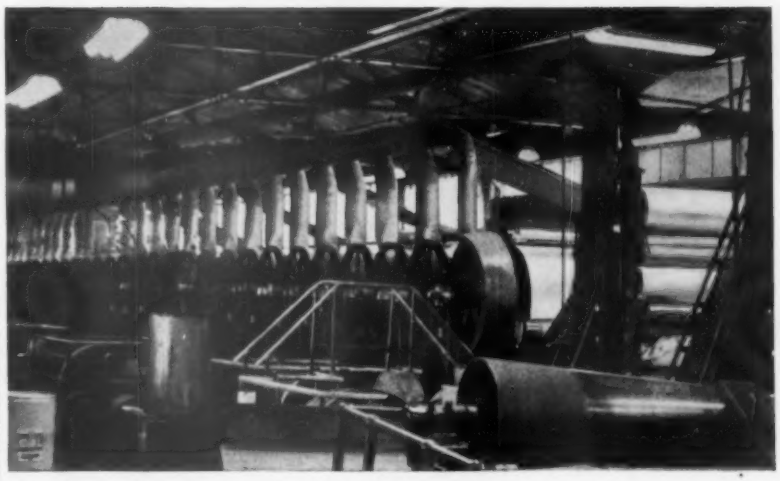
Packaging Institute, 23rd Annual National Packaging Forum, Biltmore Hotel, New York—October 18-22

PIMA, TAPPI—Joint Meeting, Equinox House, Manchester, Vt.—Oct. 19-21

. . . November

TAPPI, Annual Alkaline Pulping Conference, Rice Hotel, Houston, Texas—Nov. 1-3

HAGAFILM® UPS HEAT TRANSFER IN DRYER ROLLS, REDUCES CORROSION BY 99% at Fibreboard Paper Products Corp.



Quick case history—recding time 83 seconds

THE PLANT: The Sumner Mill of Fibreboard Paper Products Corp. is a prime producer of paperboard shipping containers. Plant operators know that optimum efficiency is a real requisite in the growing Northwest area.

THE PROBLEM: Corrosion and deposition in the plant condensate system was leading to excessive heat losses, equipment outages, pipe and trap replacements. Reduced heat transfer in the sixty-three dryer rolls forced annual chemical cleaning. As determined by test specimens, corrosion was occurring at the serious rate of 80 mg/dm^2/day, and the destructive culprits were found to be oxygen and carbon dioxide dissolved in the condensate.

THE SOLUTION: Hagafilm was the ideal remedy. Not only does Hagafilm form a non-wettable, protective film throughout the system, but it also cleans out old deposits. As a result, it promotes drop-wise condensation, extremely desirable on heat transfer surfaces such as dryer rolls.

RESULTS: Corrosion in the system has been reduced by 99% and is now negligible (0.8 mg/dm^2/day). Iron oxide deposits in the boiler have been eliminated. Trap cleaning and replacement have been substantially reduced. Temperature drops through the walls of the dryer rolls have been reduced from 15-20°F to 5°F which is normal for clean rolls. Annual cleaning costs have been eliminated.

FOR FULL INFORMATION on how Hagafilm can solve your corrosion problem safely, quickly and economically, write for bulletin 410-12-7 or contact:

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POWELL MAKES IT A SIMPLE MATTER

To find the right valve for pulp and paper services, just call Powell. It's that simple, since Powell offers a wide selection of valve designs and industry's most complete selection of materials including bronze, iron, steel, stainless, nickel, Monel Metal*, Hastelloy**, and Ni-resist*.

What's more, you don't have to wonder about Powell performance. It's built-in through sound engineering, development, materials and workmanship.

So, remember, finding the right valve can be a simple matter when you specify Powell Valves. For further information, call your nearby Powell Valve Distributor (there's one in every major city), or write The Wm. Powell Company.

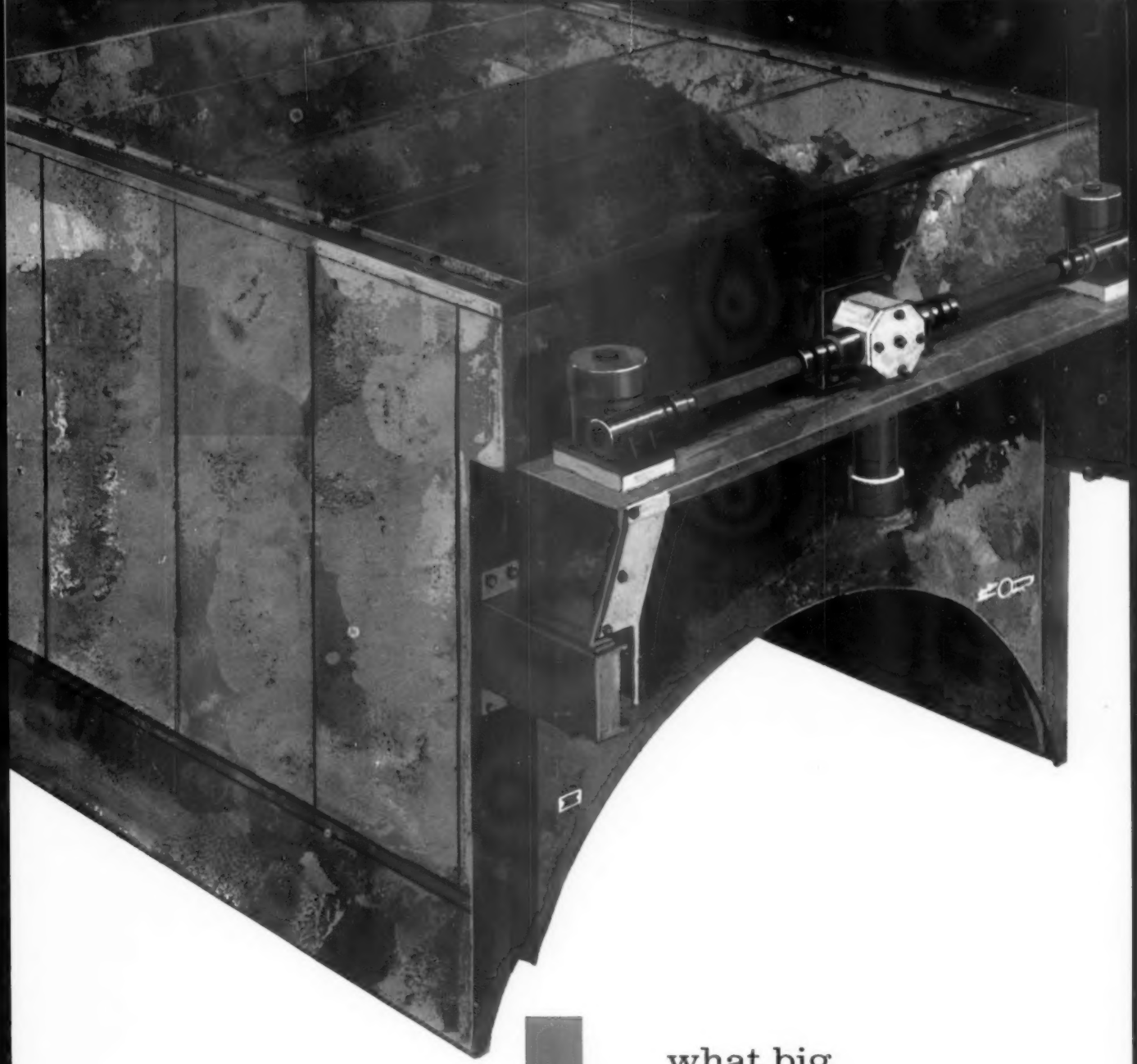
*Registered tradename of the International Nickel Company.

**Registered tradename of Haynes Stellite Company

115th year of manufacturing industrial valves for the free world

POWELL PAPER MILL **VALVES**

THE WM. POWELL COMPANY CINCINNATI 22, OHIO



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advantage
does the

AIR CAP®

bring to
papermakers?

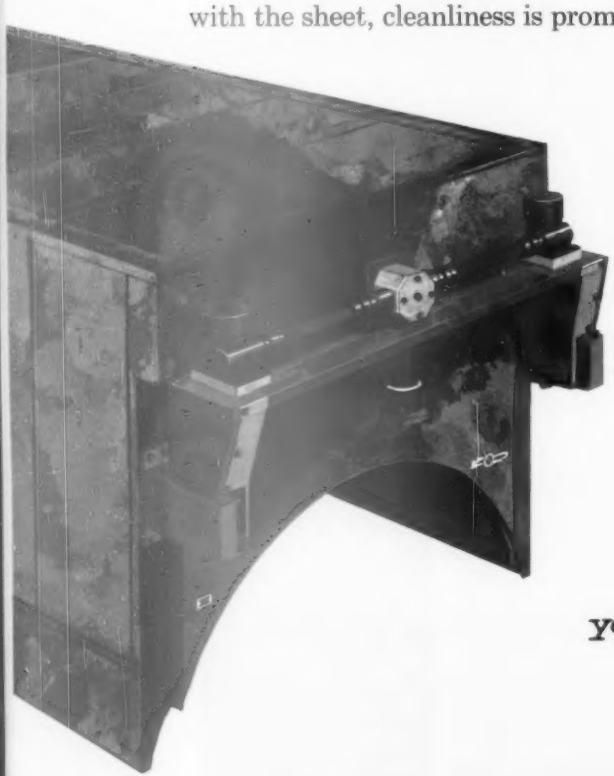
for answer, please turn page

Beloit AIR CAP®* controls and improves board and paper drying

The Beloit Air Cap couples the drying potential of high-velocity air and a design of high efficiency. Concentrated drying capacity is combined with minimum heat and power requirements and a high degree of flexibility.

The streamlined design is of very practical significance. Beloit design minimizes the possibility of interference with the sheet, cleanliness is promoted, and freedom from distortion is assured.

Cross machine correction can be provided. Beloit's arrangement has proved most effective in maintaining uniform moisture content for coating or at the reel. A Beloit representative will be happy to analyze the papermaking and economic possibilities of applications on your machine and discuss all details involved.



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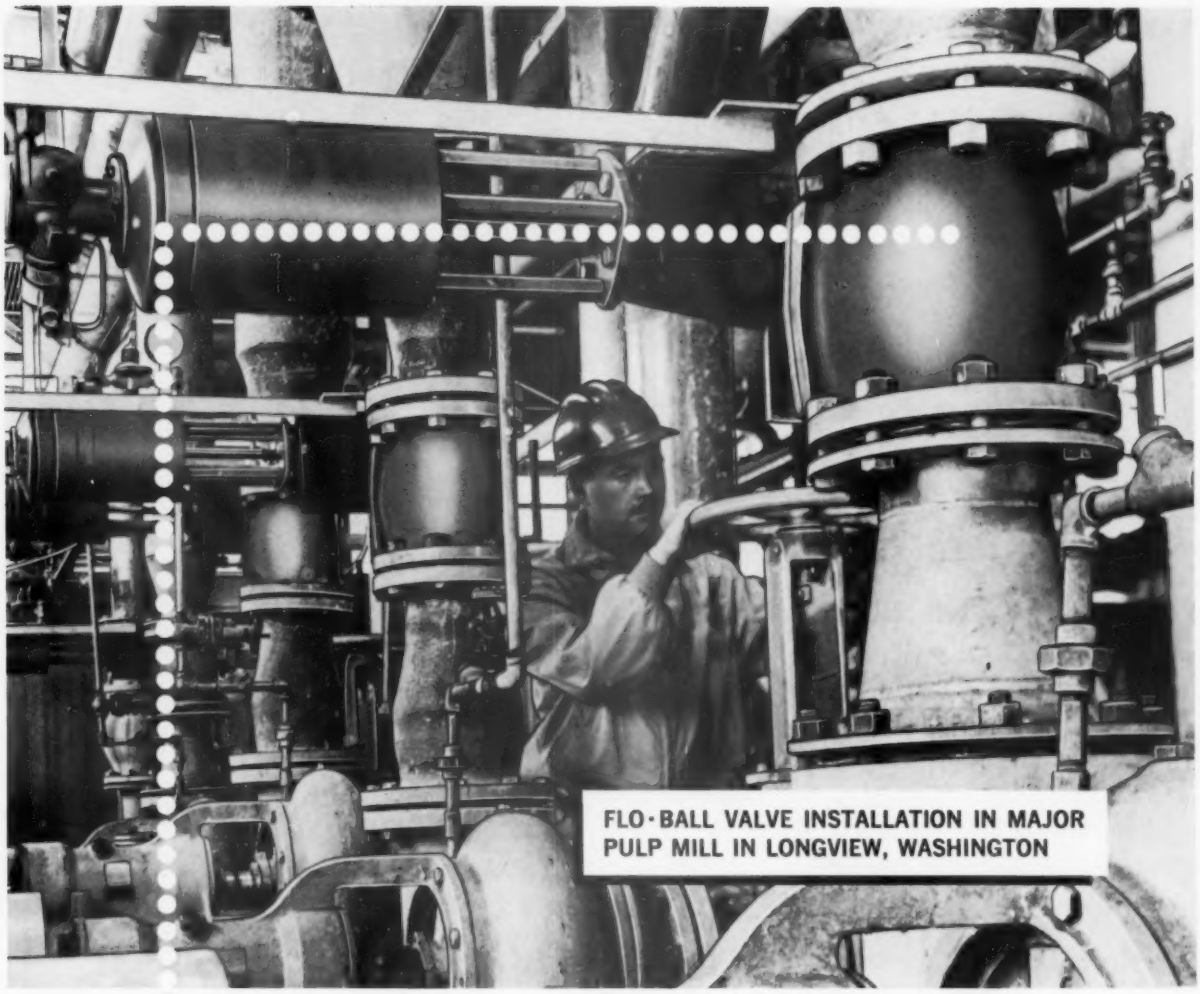
PAPER MACHINERY

your partner in papermaking

*U.S. and Foreign Patents Pending



FLO·BALL VALVE INSTALLATION IN MAJOR PULP MILL IN LONGVIEW, WASHINGTON

10 months ago these control valves AUTOMATED pulp control!

Not one minute of down-time yet!

Ten months ago one of the nation's largest producers placed ten 6-inch and 8-inch stainless steel FLO·BALL control valves into throttling service in its Longview, Washington plant. Ten months of continuous throttling service, without one minute of down-time, is history-making news in the paper and pulp industry.

These FLO·BALL valves have never required maintenance! Never plugged up, jammed or seized. Backlash was dead zero. So was liquid leakage, resulting in complete elimination of stock dewatering.

No maintenance—no down-time—exact repeatability—means dependable automation is now possible in **your** plant.

Applications: Regulation of flow of 4% (approx.) pulp stock to washer. Control of white water dilution.

Sizes: 2", 3", 4", 6", 8"

Controllers: Low pressure pneumatic, hydraulic, electro-hydraulic, electric

Materials: A wide variety, all inert to fluids normally found in the pulp and paper industry. Teflon seats and seals are standard.

Characteristics: Maximum C_v 100:1 minimum turndown ratio

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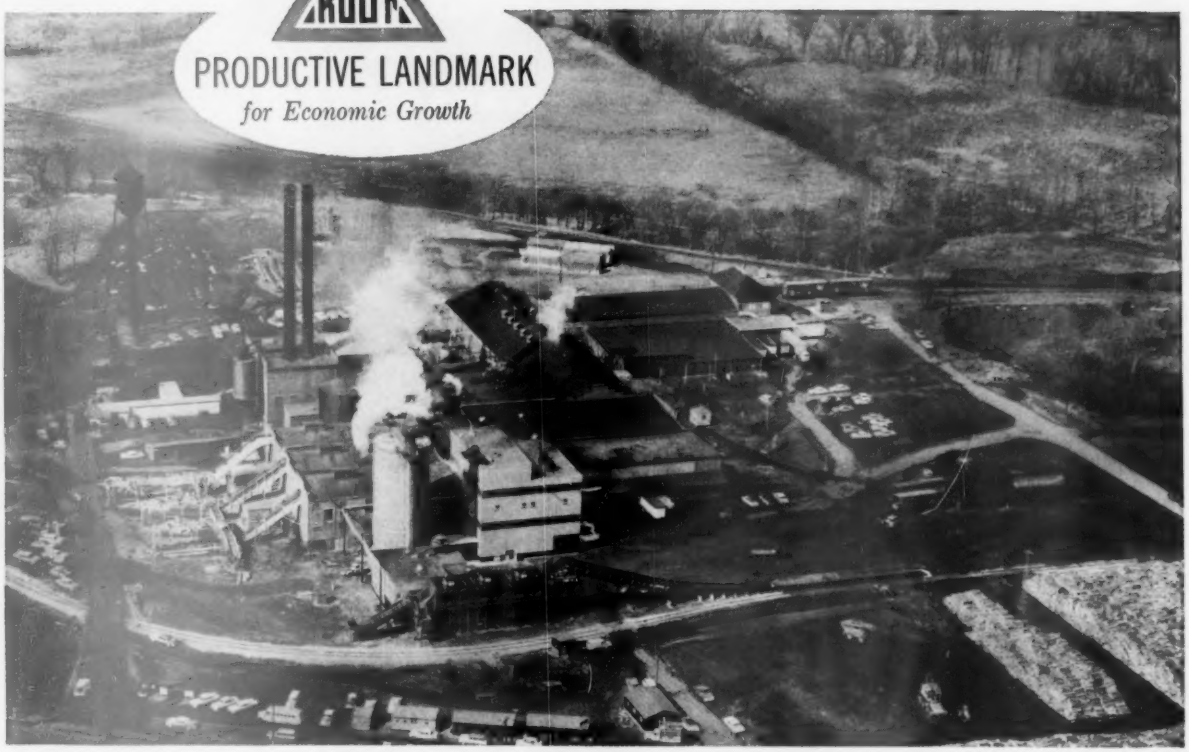
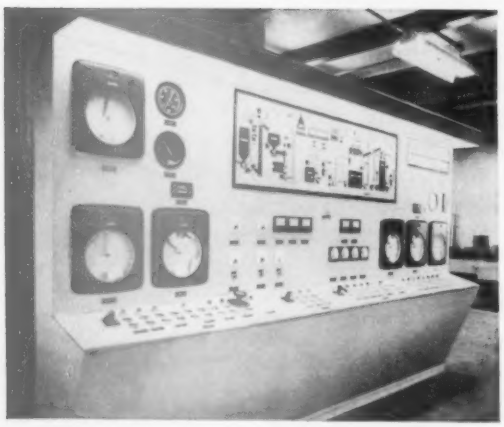
RUST

PRODUCTIVE LANDMARK
for Economic Growth



Weston Paper's new Pulp Mill *designed and constructed by* RUST



Pulp mill control panel shows flow diagram.

After using straw for 70 years, The Weston Paper and Manufacturing Co. will use hardwood in their new 150-ton-per-day neutral sulfite semichemical pulp mill at Terre Haute, Indiana. This new "Productive Landmark" was designed and constructed by The Rust Engineering Company.

The installation includes: log conveyor, barking drum, wood room, chip silo and new pulp mill building. The new process was tied into the existing system.

Rust has designed and constructed many "Productive Landmarks" for a variety of industries.

THE RUST ENGINEERING COMPANY

- 930 Fort Duquesne Boulevard, Pittsburgh 22, Pa.
- 2316 Fourth Avenue, North, Birmingham 3, Ala.

P8

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The two Langston winders recently installed at Hurlbut Paper Co. (subsidiary of The Mead Corporation), at South Lee, Mass., were built to handle fine specialty papers. Instead of standard, fixed-type spreaders, Langston used rotating-type cambered spreaders. They not only eliminate scratches, but insure clean separation of the rewound rolls.

Operators like the easy operation of these machines. From a convenient console, they can operate practically all controls, including automatic constant sheet tensioning, automatic roll ejection, winder speed, and lateral adjustment of back stand.

What are your special requirements in a winder? Langston can engineer a winder to meet them. Write for information. Samuel M. Langston Co., 6th and Jefferson Sts., Camden 4, N. J.

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PULP & PAPER

A Study in Location...

Why Nation's Newest Integrated Mill Was Built on Tennessee River

By G. W. E. Nicholson
President
Tennessee River Pulp and Paper Co.

Counce, Tenn. THE TENNESSEE RIVER PULP AND PAPER CO. is in the final stages of building a pulp and paper mill on the Tennessee River at Counce, Tenn. It is a kraft pulp and linerboard mill designed for daily production of 500 tons, or somewhat less than 200,000 tons a year. We will require initially some 300,000 cords of pulpwood a year to start, of which about 50,000 cords will be hardwood.

As the northeastern part of Mississippi, northwestern Alabama and southwestern Tennessee have not been recognized before as a section of great pinewood growth, various surveys were made starting about five years ago. Analyses indicated that although the supply was not in great abundance, the area had excellent potentials. A market was needed, plus better facilities for fire protection and improved forest management practices in this area.

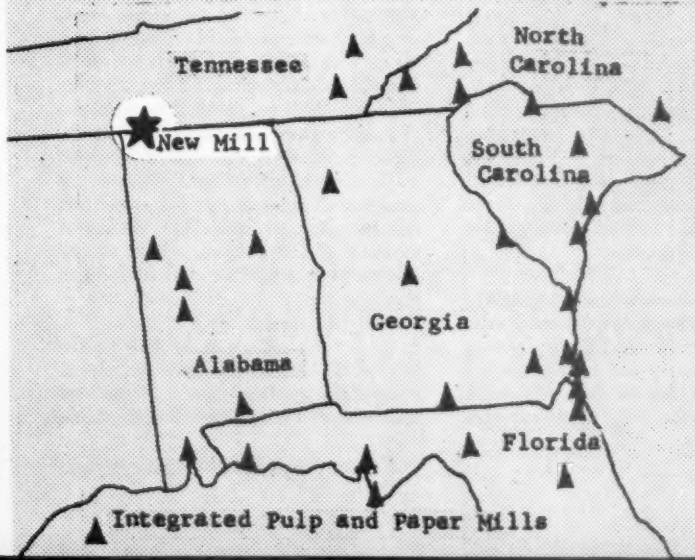
By building a railroad from the plant site on the Tennessee River to Corinth, Mississippi, tied in with three large railroad systems there, Gulf, Mobile & Ohio, Illinois Central and Southern Railway, it was decided that the area would have ample capacity to take care of the pulpwood requirements. This was particularly enhanced by plans to use a good percentage of hardwood which will help bring back the pine growth.

It is an established fact that the creation of a pulpwood market in the South has speeded up the increase of growth of pine per acre. Probably the most outstanding example of this is the concentration of pulp and paper mills in the southern section of Georgia.

All of the rail wood shipped to Corinth will be one-line haul and this will help to keep down freight cost. A good percentage of wood will be brought in by Tennessee River barge and by truck. The amount of wood shipped in by truck should increase considerably as soon as the highway bridge across the Pickwick Dam is completed. The engineering of this bridge is now being worked on by the T.V.A. engineers and the bridge is expected to be ready for traffic by 1963.

The railroad to Corinth, Mississippi, the establishment of dock facilities by the newly organized Hardin County Port Authority, together with the promise of action toward the building of the highway bridge across the Pickwick Dam, were all considered

Mr. Nicholson's 10 guides to a good paper mill location . . .



1. Availability of pine hardwood at reasonable freight rates
2. Abundant; dependable process water
3. Excellent rail, highway, water transport
4. Dependable, reasonable electric power
5. Dependable, qualified labor available
6. Large, well-located plant site; good soil conditions for foundation
7. Reasonable local, state taxes
8. Good churches, housing, schools, hospital, and nice community
9. Coal, oil, gas at reasonable prices
10. Good recreational facilities

contributing factors in obtaining pulpwood at the reasonable freight cost required.

Considerable acreage of timber has been purchased so far by us but we expect to purchase the majority of the pulpwood from the small land owners as well as from national forests and other land owners located in a radius of 100 miles from Counce. The most recent survey by the U. S. Forest Service for the State of Mississippi, completed about two years ago, indicates great improvement in softwood growth in northern Mississippi, especially in the area from which Tennessee River Pulp & Paper Company will draw a substantial part of its pulpwood. Forest Service figures indicate that this particular area had an increase in softwood inventory of 23% during the 10 years from 1948-1958, mainly due to better fire protection and an appreciable amount of planting. A similar situation is applicable to the northwest section of Alabama from which a substantial amount of pulpwood will be drawn. To a lesser extent the same applies to the immediate area of Tennessee. There is every reason to believe that much greater improvement can be made—growth of pine per acre per year can be more than doubled in the years to come.

Pine productivity has increased in the forest industries in the last 15 years or so, implemented by the Southern States together with various State Forestry Departments and the U. S. Forest Service. This will be speeded up in the future. And there are many ways in which improvements can be made. Example: Tennessee River Pulp & Paper Company has already planted over 20 million pine seedlings, mainly loblolly, carried out very extensive timber stand improvement work on its land and provided for fire protection, and the expectations are that from 5-10 million pine seedlings will be planted by the company each year in the years to come, and seedlings will also be given to small land owners and members of various organizations.

Location of the plant next to the Pickwick Dam on the Tennessee River made it possible to draw water for process usage from above the Dam where the Tennessee River forms a 40-mile long settling pond all of the way from Counce, Tenn. to Sheffield, Alabama. The water is of such excellent quality that treatment is not necessary for manufacture of unbleached kraft pulp.

By building a railroad from Counce, Tennessee to Corinth, Mississippi, incorporated as a common carrier and connected to the three large railroad systems, favorable freight rates for pulpwood as well as finished product will be realized. The Hardin County Port Authority has been organized for building of dock facilities on the Tennessee River located above the Dam, which will bring about water transportation for pulpwood as well as finished product. Linerboard will be shipped by barge on the Tennessee River, the Mississippi River and the Ohio River systems to customers in the Middle West.

The plant is located next to the hydroelectric power plant at the Pickwick Dam and firm; dependable electric power will be purchased from T.V.A. on a long term contract at reasonable cost. A long term contract has also been entered into with a local natural gas distributing company furnishing gas for fuel from the Tennessee Gas Company's large pipeline passing by the plant site. Coal from coal mines in the State of Kentucky, located next to the Tennessee River, which can be loaded directly from the mine on barges for transportation to Counce, is available.

A survey covering labor supply available in the Counce area found that people had been leaving that general area for a number of years on account of lack of work available, and the indications are that an excellent type of labor will be available.

The 1600 acres of land purchased for the plant site, located between the river and the highway next to the T.V.A. hydroelectric power plant, was formerly composed of several small farms, with a contour of two elevations, one next to the highway where the plant has been built about 80′ above the river level with soil conditions most excellent for foundations, with the result that no piling has been required. The second elevation is suitable for ponding of effluent from the plant and located about 40′ above the river level and 40′ below the plant.

The plant is located inside a triangle of three communities, Savannah, Tenn., population about 5,000; Iuka, Miss., about 3,000; and Corinth, Miss., about 12,000; all within 20 miles distance from the plant with excellent schools and hospital facilities. Considering the excellent boating and fishing on the Tennessee River at the Pickwick Dam next to the plant site, the very best recreational facilities are available for the employes and their families. In general, that particular location would be considered as one of the most attractive and healthy of areas.

Output of linerboard has been contracted for many years to come, and for that reason continuous full operation is assured. The plant

AMERICA'S NEWEST pulp and paper mill is located near Counce, Tennessee, will produce 500 tons of kraft pulp and paperboard a day.

has been planned, laid out and built for rapid expansion whenever there is an increase in demand for the finished product.

The present annual paper and board production in the United States is 34 million tons with a wood pulp production of 26 million tons, requiring 37 million cords of pulpwood. Seventy-four pulp and paper mills located in the 12 Southern States below the Mason-Dixon Line produce about 60% of the total pulp made in the United States, using over 20 million cords of round pulpwood and chips from sawmill waste corresponding to 2½ million cords of pulpwood. Pulpwood constitutes today about 30% of the total volume consumed in the form of industrial forest products in the United States. This is a spectacular increase from 4% only fifty years ago.

Round pulpwood figures for 1959 in the three Southern States located in our territory, Alabama, Mississippi and Tennessee, are respectively: 2,600,000, 2 million, and 345,000 cords with an additional production of chips from sawmills in the respective States of 340,000, 140,000 and 7,000 cords. The ultimate total annual amount of chips from sawmills in the Southern States has been estimated at 5 million cords. The recovery of this former waste wood in the Southern States started less than 10 years ago and has been stepped up very rapidly, and there is every reason to expect that the 5 million cords per year estimated will be realized in a very few years.

Pine seedlings planted today below the Mason-Dixon Line will grow into sawlogs in about 40 years from now, or by the year 2,000. In addition to a great increase of pulp production for domestic use, we can expect a large growth in export of pulp and paper products requiring additional millions of cords of pulpwood. These increased requirements of wood in the years to come can undoubtedly be met provided the acreage of commercial forests available is made productive. We must see that all acreages are busy acres and not made unproductive through fire, insects, disease, or for the lack of proper kind of reproduction. This demands a better informed public as well as land owners and a real challenge to the trained and educated foresters.

The policy of the Tennessee River Pulp & Paper Company will be to improve the productivity of the land owned by the company as well as that owned by the small land owners through the application of modern and up-to-date forestry management. A good start has been made although we are not yet a money earning concern, as we already have 24 graduate foresters on our payroll as permanent employes. After we get the plant into operation, which we expect to do during the first quarter of 1961, the doors will always be open to members of your organization, and we also would like to see you visiting our timberland holdings and discussing with our foresters improvements to be made. ■

This article condensed from a speech given at a joint meeting of the Kentucky-Tennessee and Ozark sections of the Society of American Foresters.

First of two articles by Gunnar W. E. Nicholson . . .

G. W. E. NICHOLSON has been an industry leader and Southern mill builder for many years, was executive v.p. for Union Bag Paper Corp. (now Union Bag-Camp) before becoming president of Tennessee River.

Known for his rich experience in pulp and paper circles, he was recently praised in the Hercules *Paper Maker* for his "fine blend of Scandinavian sturdiness and American enterprise." He graduated from Chalmers Institute of Technology in Sweden and left a secure post as supt. of one of Sweden's oldest mills to come to Canada as a mill hand. He became an American citizen in 1934, was president of TAPPI in 1946 and recipient of the TAPPI Gold Medal in 1954. He has been elected to the Swedish Academy of Engineering Science and decorated as Commander of the Swedish Royal Order of the Vasa. A second article will appear in the next issue of PULP & PAPER.

AUTHOR WHYTE, left, inspects bleach paper rolls before they leave plant. Above, Instrom tester is checked before making extensible paper.

UNIFORMITY... Makes the big difference in St. Regis' company-wide quality control

By James J. Whyte
Quality Control Representative
Tacoma, Washington

QUALITY CONTROL IS MAKING and meeting specifications on which the producer can make a profit and with which the consumer will be satisfied. The first function of a good quality control program is to set up these specifications. They are made up from these five main sources:

1. From statistical analysis of past production. The customer has accepted paper and you continue making the same product for him. The advantage is that this is the easiest method. In fact, John M. McEwen, of The Weyerhaeuser Co. in Everett, Wash., says this is like a cross-eyed cowboy who shoots the bullets and then draws a target around the bullet hole. The disadvantage is you never know how far you are over the needed specifications, and may be wasting time and chemicals.

2. From government specifications and freight classifications. We are all familiar with UU-S-48C and other government regulations which are perhaps the most solid specifications we have because it is mandatory to meet their requirements.

3. From customer specifications. These represent, perhaps, the least number of our specifications. Although a customer knows what he wants the paper to do, he cannot translate his requirements into specifications. We must do this for him.

4. From the standard specification book made up in our central Quality Control Laboratory in Deferiet, N. Y. This is done because we desire a standard product in all our mills. If we would want to shift an order from one mill to another, the customer will get a standard product.

5. From the Quality Control Group at our Tacoma paper mill.

The Quality Control Group meets daily, five days a week. This meeting is in the morning, so we start the day off being "quality-minded." The Quality Control Group consists of the resident manager, who is chairman of the meeting; the resident manager's staff consisting of the asst. to the resident mgr., the manufacturing supt., the paper mill supt., the pulp mill supt., the technical supt., and the asst. technical supt. Also the sales representatives who are responsible to the vice president, kraft sales; and the quality control representative, who reports to the quality control manager in Deferiet. A representative of each division is there to present his case when discussing specifications.

MASTER SPECIFICATION file is used to prepare a daily quality report sheet by Author Whyte. In this way, there is constant check on quality.

Each department sees the problem differently, in setting up specifications. The resident manager and the manufacturing supt. hold that we cannot have certain specifications because they cost too much. The paper mill superintendent says if we could change specifications slightly, he could get an extra 50 fpm off the machine, thus getting more production.

The technical superintendent says there are too many specifications re-

MAKING SURE Elmendorf tear tester is ready for action, shift tester Walter Haug runs special test, part of quality ritual at St. Regis.

IN LAB, Pete Warnaca, laboratory technician, makes sure the Schopper tensile tester is calibrated and ready for daily quality routines.

quiring tests and his testers cannot possibly keep up. The pulp mill superintendent says if we cook the stock harder, we can get a better yield. The sales representatives says we must meet specifications to keep our customers.

But, by a daily meeting of these people, we do come up with specifications and each one of the group has had his part in them.

After the decision is made, it is up to the quality control representative to get this information to the people who are making the paper, namely, the mill superintendent plus the machine tender, back tender and paper testers. We distribute this information by a file card system. The front of these cards has a list of all the tests we make on the paper, with columns for specifications, minimum specifications, and maximum specifications; also shown are columns for "hold" and "reject" points.

On the back of the card we list the pertinent customers and any comments that sales or production wish to emphasize.

The second function of quality control is to see that the specifications are met. Instrumentation is a most important factor. A test result is of little use unless it is correct.

It is the responsibility of the quality control representative to see that all tests are carried out correctly with accurately calibrated testing instruments. This is done both by the shift tester and by an instrument man who checks the testing instruments by a set check list.

The instrumentation program was set up and is administered by a central laboratory under the Test Method and Instrument Group. This group also clearly defines how each test is to be run, and how each instrument is to be checked and calibrated. This assures a minimum of error due to incorrect testing procedures or improperly calibrated test instruments. The actual supervision of the testing is in the care of the technical department.

If we do not meet the specifications which are deemed important, this paper is set aside, and after being rechecked, it is discussed at the quality control meeting. The sales representative, who acts as the customer's representative, decides whether or not this paper will be acceptable to his customer. The sales representative may contact the customer in making his decision. If it isn't acceptable, it still can be downgraded, or may be sold as a different grade. These decisions are made at the daily quality control meeting. The manufacturing superintendent and the sales representative make the actual decision. It is then up to the quality control representative to see that the decisions are carried out, and to keep a record of the action taken.

In disposition of off-quality paper, we have just two categories: 1. The paper with any test out of specifications, which may have been (a) culled, (b) converted to other grades, (c) shipped; 2. The paper culled for roll defects, grade changes and washup. All of this is culled.

In keeping a record of off-quality production, we can keep score on how we are doing from month to month. As time goes on, we develop a record of the reasons for off-quality production which point the way to areas where improvements can be made to prevent defects and resultant off-quality paper.

It is also the function of quality control to recommend any changes in manufacturing and procedural matters which may effect product quality and resultant customer satisfaction.

Another aim of our quality control system is to have programs that workers like. We can do this by giving them the tools to inspect their own work and correct errors by themselves, and by letting them, through guidance, experience the satisfaction of turning out a better product. It is the function of quality control to substitute an objective search for possible causes of trouble in place of personal criticism and "buck-passing."

It is also the function of quality control to develop a better understanding between each department so that there will be no repetition of work and yet there will be a unity of purpose.

The function of quality control is to implant in the workers' minds that quality must be built into the product from its beginning. By doing this, we will practically eliminate cull and off-quality.

As one man puts it, "Profits equal the selling price—minus the cost—minus the off-quality."

It is the function of quality control to develop our statistical knowledge to help the operation. We have a central statistical group which is continually working on our problems.

The function of quality control is to reduce, not increase inspection. ■

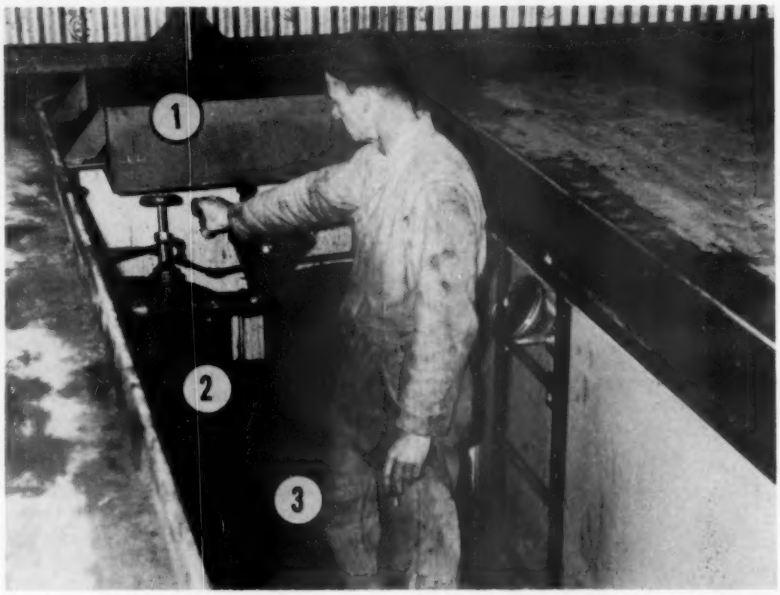
EVERYONE IS CONSCIOUS of quality at St. Regis. Daily checks are routine and uniform throughout all mills, assuring that quality does not vary from mill to mill. Here William Moon, rewind operator, checks counter rolls before they leave plant.

Problem: Handling, storing, reusing oil

Place: Crown Zellerbach Corp. Neah Bay (Wash.) logging division.

Solution: The truck shop's lubrication pit is equipped with track-mounted open-top tank (#1) which can readily be positioned for receiving oil drained from crankcase, rear-end assembly or transmission box of trucks serviced on ramp. Spent oil collected in this receptacle is gravity transferred to two 55 gal. drums (#2 & 3) by opening a valve-equipped discharge pipe positioned over a funnel infeed. These drums are joined together at the bottom by a short connecting pipe. To empty this 110 gal. live storage, the contents are "pumped" into a 3,000 gal. tank adjacent to the shop by injecting pressurized air at top of the double-drum unit. Closing a valve in the drum-filling line prevents air escapement.

During the dry summer season the accumulated used oil is applied to tree farm roads. This builds up a stable road surface, eliminates dust formation and solves the oil-disposal problem.



The shop's pressure-lubrication compressor supplies pressurized air for "pumping" collected oil to the storage tank. The 52 in. deep by 30 ft. long lube pit has central drainage and seven floodlights.

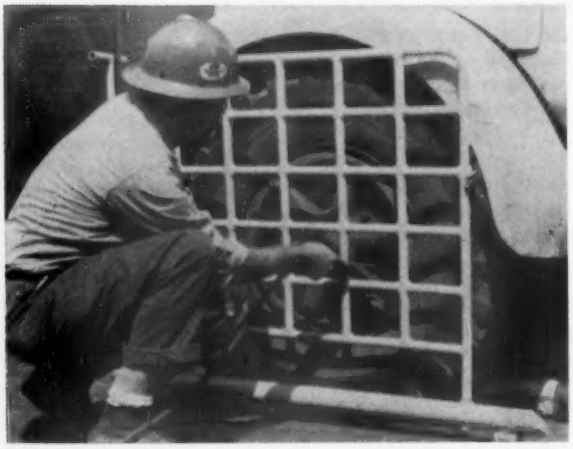
Two quick tips prevent accidents, save money

Problem: To reduce substantially the cost of back-up rolls for die cutting the outline and patterns of paper place mats and lace paper doilies.

Place: The Polymer Corp., Reading, Pa.

Solution: Royal Lace Paper Div., Standard Packaging Corp., replaced Kraft paper back-up rolls with Polypenco MC nylon thereby saving $2000 per machine annually in the cost of rolls alone. In addition, machine down time is reduced, less scrap is produced, product is improved.

MC Nylon roll recently introduced has outworn 50 paper rolls costing $40 each.



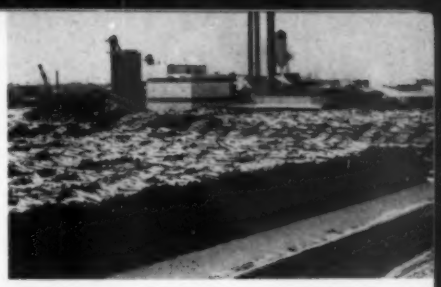
Problem: Airing truck tires, long recognized as hazardous.

Place: Mobile Equipment Department of Republic Steel Corp., Youngstown, Ohio District.

Solution: The device shown above was designed for the protection of personnel while airing up front tires of trucks. It is run back along both sides of the front wheel while it is on the truck, and provides protection against the lock rim flying off.

A man performing the airing up operation can keep his hands on the outside of the protector at all times.

Conversion to hardwood from straw as a .009 corrugating medium has become a common pattern in the industry. This is how the nation's biggest producer of straw medium accomplished the . . .



Switch from Straw to Wood

Weston Paper and Manufacturing follows the trend . . . this exclusive story details the conversion that required a complete mill revamp

—Terre Haute, Ind. NOT A MERE production line change, Weston Paper and Manufacturing Company's switch from straw to wood as a corrugating raw material called for complete construction of a new ultramodern neutral sulfite semi-chemical pulp mill.

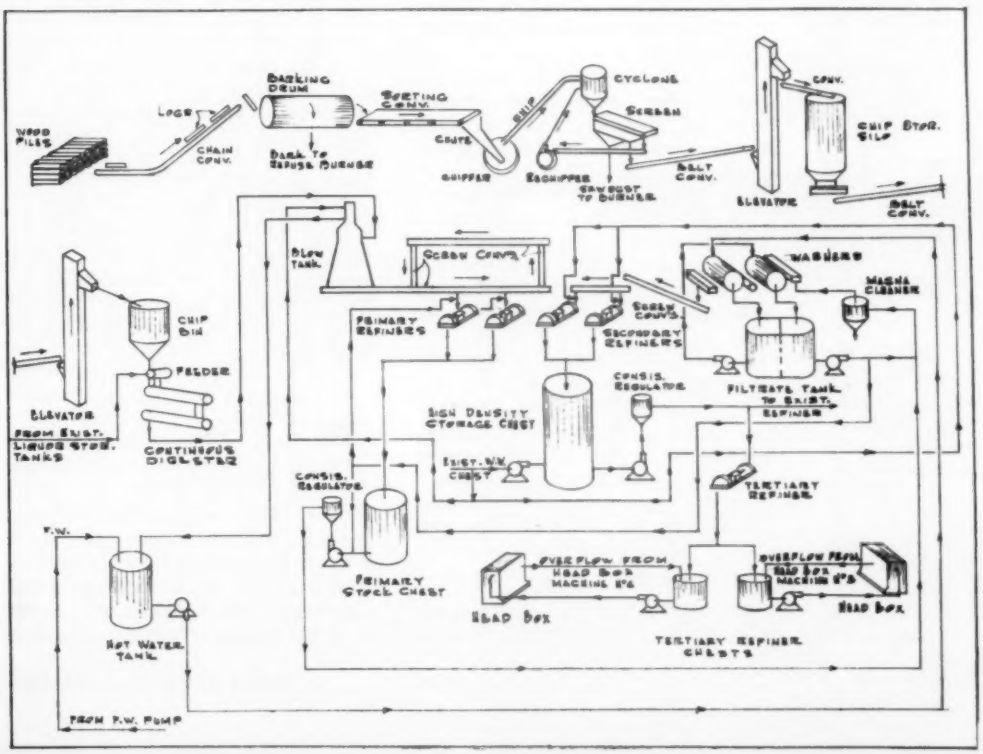
Designed and constructed by Rust Engineering Co. in conjunction with Weston's technical staff, the installation is highlighted by an extensive use of automated and remote-control mechanisms which make it one of the most modern semi-chemical pulp plants built to date. Using native Indiana hardwoods, this new pulp mill provides semi-chemical pulp to the mill's existing paper machines and no changes were required in the machines.

The new process was so designed and tied into existing facilities that continuous production was maintained during the change-over. Straw pulping and refining system has been maintained to provide maximum flexibility in future operations.

The trend away from straw is due to several factors. Change in wheat harvesting methods, to use of combines and away from stationary threshers, limits the amount of available straw, unless farmer goes to considerable added expense for a separate operation. Government control of wheat acreage allotments also has cut down significantly on the amount of wheat straw available. Use of short stem wheat varieties also has made straw less available. Add to this rising farm and transportation costs (Weston had to go as far as northern Michigan in some cases to get straw), plus the obvious problem of seasonal weather conditions, bad seasons, and the situation becomes a tough one.

Weston began studying hardwood possibilities as early as 1956 and through cooperation of the Forest Service, Purdue University and state agencies, determined that there is more than enough timber in Western Indiana and Eastern Illinois to provide perpetual pulpwood supply to this Terre Haute mill.

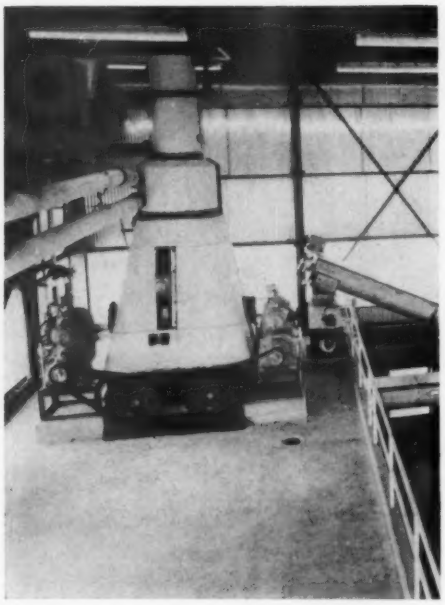
Actual plans for the installation were started in 1958 and a comprehensive study made to get the most feasible equipment to produce top-grade, unbleached, neutral sulfite semi-chemical pulp. A. D. Meighan, asst. plant mgr. and technical dir., and E. A. Rinell, mill div. eng., were given responsibility for selecting best



FLOW SHEET shows how pulpwood is handled in semi-chemical pulp mill. Pulp mill was only change necessary.

PULPING...

Continuous digester, complete new semi-chemical facilities highlight Weston's conversion



process equipment. They visited more than a dozen sulfite semi-chem plants in the U.S. before making their decision. Complete data on maintenance costs and dependability were stressed in selecting the equipment.

The entire project was handled by R. F. Burns, Jr., v.p. and prod. mgr.; R. D. Shiflet, v.p. and mgr.; R. A. Eldridge, supt.; E. C. Moseman, asst. supt.; D. E. Fuson, lead tour boss, Ben Eldridge, pulp supt. and T. D. Hall, plant engineer. They worked with Rust men C. G. Thornburgh, project mgr.; B. E. Hutchins and G. E. Smith, staff engineers; C. F. Paton, proj. eng.; Harry Nicodemus, construction supt. and Herbert Lincoln, chief field engineer.

Chips are delivered to the new semi-chem building by means of a 12½ ft. dia. Link-Belt feeder at the bottom of the chip storage bin. It is equipped with a variable speed drive providing table speeds of 2.2 to 6.6 rpm. and is designed for a flow of 600 to 1800 cfh of hardwood chips. The V-S drive is automatically regulated by a weight controller mounted on the chip bin which is, in turn, located over the Pandia continuous digester. Controller adjusts the plate feeder drive speed to maintain a relatively constant chip supply.

Chips are delivered from the plate feeder to a 30-in. wide belt conveyor, which discharges into the boot of a Stephens-Adamson bucket elevator. The elevator empties onto a chute which terminates at the digester chip bin.

Digester screw feeder consists of a 15-in. dia. constant pitch screw and tapered throat, a preheater, and a plug pipe. The screw is driven by a 150-hp Westinghouse motor and Louis Allis coupling. Chips are delivered continuously from the chip bin to the screw feeder, and are conveyed into the inlet T-piece and then into the digester itself. In the tapered throat the chips are tightly compressed to form a plug that serves as a valve to prevent loss of steam pressure from the cooking vessel.

The inlet T-piece, together with all parts of the screw feeder and the digester pressure areas, is designed for 170 psi working pressure. Steam and cooking liquor contact the chips in the inlet T-piece and the cooking then takes place in the Chemipulper tube assembly.

An automatic stop valve is designed to close the opening where the chip plug normally prevents steam pressure loss from the digester. Failure of the chip plug actuates the stop valve and seals the digester inlet, and at the same time shuts off the supply of chips and cooking liquor.

The continuous Chemipulper digester tube assembly is designed for a working pressure of 170 psi, and consists of two 42-in. outside diameter stainless steel horizontal digester tubes, each 38 ft. 10-in. long. The chips are conveyed through the digester tubes by two 14-in. pitch, 38¾-in. diameter time control screws, each driven by a 7½-hp variable speed drive. Chips are cooked 16 minutes at 170 psi and consume 12 percent sodium sulfite.

Primary function of the discharger is to transfer cooked chips continuously and uniformly from the high pressure cooking zone of the tube assembly to a blow tank, which is at atmosphere pressure. The discharger is a vertical unit with a constant speed impeller located in the pressure zone. The impeller maintains a uniform discharge rate by wiping the face of an orifice in an adjustable discharge valve.

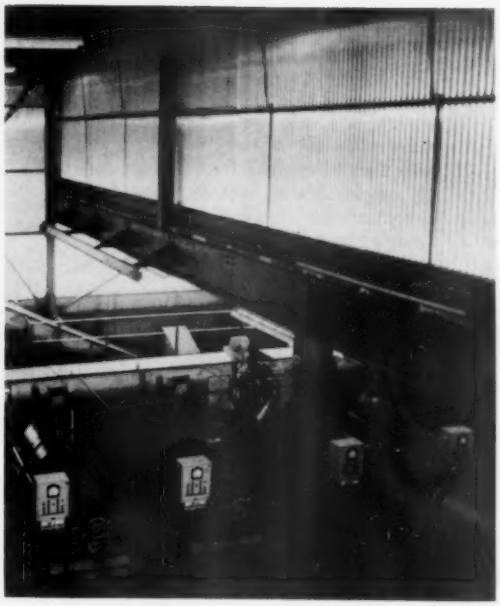
Semi-chemical pulp is blown continuously through one of two discharge valves located in separate blow lines. One discharge valve is manually operated, while the other is remotely controlled from the operator's panel. In normal operations, the remotely controlled valve is used, while the manual valve is for emergency or stand-by service.

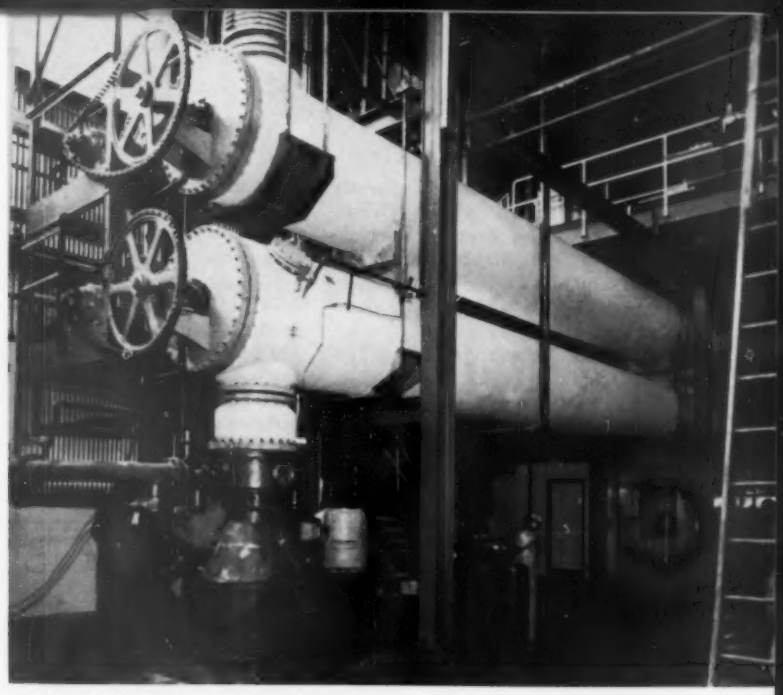
Stock is continuously blown through the discharge valves to a 7-foot Pandia live bottom blow bin of 250 cu. ft. capacity. Steam flashing from the stock is condensed in a direct-contact condenser, designed to handle 12,000 pph of steam, using 250 gpm of water. The resulting dirty hot water is collected and stored in a 10,000 gal. capacity steel storage tank. The hot water is then used as shower water on a vacuum washer.

Pulp is removed from the blow tank at approximately 25 percent consistency, by six 12 in. diameter feeder screws equipped with variable speed drives. Speed of the drives is controlled from the main operating panel. The level of the stock in the blow tank is indicated by an Industrial Nucleonics Model LS-101 source unit and two detectors to indicate high or low levels of stock in the tank.

Stock discharging from the live bottom blow tank is transported to primary refiners by a 20-in. diameter spiral conveyor, operating at 45 rpm. The stock in the conveyor not taken by the refiners is recirculated by three 20-in. diameter spiral conveyors turning at 60 rpm. Screw conveyors were fabricated by the J. D. Christian Engineering Co.

Unwashed cooked chips are initially refined in two 40-in. double-revolving disc Bauer refiners each driven by two 350-hp, 1200 rpm Allis-Chalmers motors, operating at 4,160 volts. Stock is fed to the refiners by inclined twin screw feeders with variable speed drives to control the feed rate. Stock from the primary refiners is discharged





NERVE CENTER of plant is simple, straight line cooking and refining system shown here. Live bottom blow bin for Pandia continuous digester is left, refiners right. Picture right is the continuous digester.

into a sluice line leading to the primary stock chest.

Operating controls for the primary refiners are locally mounted to give close control over the refiner during the start-up operations.

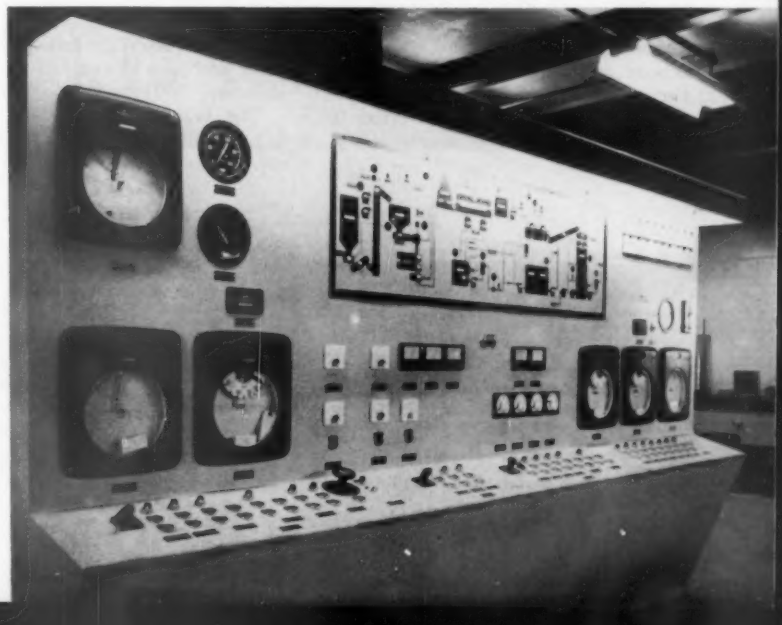
Stock entering the refiners is diluted to approximately 10% for refining and is further diluted to four % consistency for sluicing to the tile primary chest. The freeness of the stock, after primary refining, is 700 to 750 Canadian Standard.

It is then pumped through a consistency regulator where it is adjusted to 4% prior to further dilution to approximately 1½% consistency. From there it passes through a 32-in. Bauer Magna Cleaner to remove sand, tramp metal, and other foreign particles prior to being washed. A Foxboro magnetic flow recorder controller in the stock line records, controls, and totalizes the flow. The recorder and totalizer are located on the main pulp mill panel, and a flow indicator is located at the washer console. Flow to the washer is regulated from the washer console.

Cooked pulp and black liquor discharged from the digester is washed to remove the liquor and leave a clean pulp for use in manufacturing the .009 corrugating medium. At the present time, waste liquor from the washing operation is sewered; however, wash water is reused as much as possible for process dilution purposes to reduce the volume sewered.

Primary refined pulp is washed on a 8x16-ft. Impco two-drum vacuum washer. The method of washing is continuous and countercurrent. The pulp passes from the inlet box of the first stage vacuum washer to the washer drum, to a submerged repulper, over the second stage drum, and into a shredder conveyor. The liquor flow is in the opposite direction with hot white water being used for second stage showers; second stage filtrate being used for first stage shower and repulper dilution; and first stage filtrate being used for dilution in the inlet box, dilution of the cooked chips at the primary refiners, and dilution of stock sluiced to the primary chest. Washed pulp leaving the washers is between 12 and 15% consistency.

Upon leaving the second stage washer drum, the pulp mat drops into a shredder conveyor and is carried to two Bauer double revolving disc refiners by 20-in. diameter spiral conveyors turning at 45 rpm. The Bauer secondary refiners are identical to the two primary refiners. Stock to the secondary refiners is diluted to 10 to 12%



HIGHLY INSTRUMENTED mill is typified by this Foxboro instrument panel in pulp mill which has flow diagram, window view of operations.

consistency and discharged directly into a 25-ft. inside diameter by 37½-ft. high tile chest. The chests for the pulp mill were built by Stebbins Engineering Co., and the high density storage chest is equipped with an Impco dilution system and agitator.

Instrument control panels were furnished by M. S. Jacobs & Associates, Inc., and instruments are by Foxboro.

An Impco dilution system consists of two high pressure swing nozzle assemblies located 120° either side of the pump suction and agitator. These nozzles operate at 100 psi and supply about one-half of the dilution water requirements to bring the pulp to 4 to 4½% consistency. The remainder of the dilution water is added at low pressure (35 psi) through nozzles located directly above the agitator, and at the pump suction. The amount of dilution at the pump suction is regulated by a Fischer-Porter "in-line" consistency controller.

Next refining stage is a Bauer Model No. 441-F, 44-in. pressure-type disc refiner, driven by a 700-hp, 514 rpm Westinghouse motor. Stock enters the refiner at 4 to 4½% consistency and is discharged under pressure into either one of two tile tertiary stock chests. Operating controls for the refiner are locally mounted for close control of the refiner during startup and adjustment periods. Combined capacity of the tile tertiary storage chests is 16 tons at 4½% consistency, which allows adequate time for routine maintenance such as plate changes in the refiner.

Stock discharging from the tertiary refiner is continuously sampled and passed through a Bailey continuous freeness recorder. The freeness recorder is located on an instrument panel near the tertiary refiner, along with remote controls for the high density stock dilution system, chest level indicators for the tertiary and high density chests and a flow recorder and consistency recorder for stock entering the tertiary refiner.

Bales of waste corrugated are fed continuously to a 16-ft. diameter Hydrapulper equipped with a junker and ragger. The stock from the Hydrapulper is passed through centrifugal cleaners, thickened, and passed to storage. Stock from the storage chest is pumped to a Bauer "442" 32-in. pressure refiner and to a headbox. Semi-chemical pulp and waste corrugated stock are then blended prior to passing through jordans and into the machine chests.

Weston has long, distinguished background

Weston Paper Co., was founded in 1893 by Edward B. Weston at Greenfield, Ind. Later the same year he incorporated The Weston Paper and Manufacturing Co. at Dayton, Ohio, primarily to sell the mill production at Greenfield. In 1899 it moved to Terre Haute, Ind., and the name was changed to the Terre Haute Paper Co. The original facilities at Terre Haute, known as Mill #1, consisted of one 80-in. cylinder machine, producing straw wrapping paper and corrugating medium. Because of the growth of the corrugated box industry, a second machine was added in 1907 and production devoted entirely to corrugating medium.

A second paper mill was completed in Terre Haute in 1917 with one paper machine. Another machine was added in 1921. This mill, originally known as Mill #2, is the present Terre Haute mill. Mill #1 was discontinued in 1951 and converted to its present use as a warehouse facility.

The Terre Haute mill, located on the east bank of the Wabash River, consists of two paper machines of 110 and 126 in. trim width and produces about 135 tons of .009 corrugating medium daily. It provides all of its own water supply from deep wells and generates the major part of its own electrical needs, utilizing the readily available supply of Indiana coal trucked directly from nearby mines.

Originally designed to utilize the abundant supply of Wabash Valley wheat straw, the Terre Haute mill has long maintained a reputation for producing the finest quality straw corrugating medium under its "Red Stripe" trademark.

Over all Weston operations consist of five manufacturing locations and the corporate accounting offices at Dayton, Ohio. The general management and sales offices, including board sales, are in Terre Haute.

The Weston management includes Marshall T. Hubbard, president; C. H. Hutchins, senior vice-president; E. Wallace Weston, secretary-treasurer; Kenneth L. Valentine, controller; and W. B. Turner, general counsel. Mr. Ward Hubbard and Ruel F. Burns, Sr., long active and well known in the box and mill operations respectively, remain active as chairman and vice-chairman of the board of directors of the company.

Mill Division management includes Ruel F. Burns, Jr., vice-president and production manager; Carlton J. Campbell, sales manager, mill products; Ralph D. Shiflet, vice-president and manager, Terre Haute mill; and J. K. Vogel, vice-president and manager, Auglaize mill.

Other management personnel at the Terre Haute mill include A. D. Meighen, assistant plant manager and technical director; Raymond Eldridge, superintendent; Everett C. Moseman, assistant superintendent, T. D. Hall, plant engineer, and E. B. Weston, personnel director. ■

Equipment List

Barking drum: Fibre Making Processes, Inc.
Chests and tanks—tile: The Stebbins Engineering & Mfg. Co.
Chippers: D. J. Murray Manufacturing Co.
Crane—woodyard truck: American Hoist and Derrick Co.
Digester—continuous and blow bin: The Black-Clawson Co.
Electrical switchgear & motors: Westinghouse Electric Corp.
Washers, high density stock storage system, agitators: Improved Machinery, Inc.
Instruments and consistency regulators: Foxboro
Instrument panels: Lake Erie Electric Mfg. Co.
Pumps: Allis-Chalmers Manufacturing Co.
Reducers: The Falk Corp.
Refiners and stock cleaners: The Bauer Bros. Co.
Rotary star-type feeder: Chain-Belt Co.
Rotary plate feeder: Link-Belt Co.
Screen—chip: The Orville-Simpson Co.
Cary-Lift: Pettibone-Mulliken Corp.
Pressure-reducing desuperheating station: Bailey Meter Co.
Stainless steel piping: Bristol Metal Products Co.; Felker Brothers
Steel piping and valves: McJunkin Corp.
Cleaner—stock: The Bauer Bros. Co.
Air compressor: Ingersoll-Rand Co.
Continuous freeness recorder: Bailey Meter Co.
Conveyors—
chain: American Brake Shoe Co.
belts: United States Rubber Co.
bucket elevators: Stephens-Adamson Mfg. Co.
screw: J. D. Christian Engineering Co.
mechanical components: Link-Belt Co.
Dryer—air: Trinity Equipment Corp.
Grapple—pulpwood: The Owen Bucket Co.
Grinder—knife: Samuel C. Rogers & Co., Inc.
Hoist: Shepard Niles Crane & Hoist Corp.
Hood—washer: Mead Pulp Sales, Inc.
Knives—chipper: John W. Bolton & Sons, Inc.
Magnets: Eriez Manufacturing Co.
Valves: DeZurik Corp.
stock: W. G. Rovang & Associates, Inc.
control: Foxboro Co.
Water softener: Hungerford & Terry, Inc.
Engineering and general construction: The Rust Engineering Co.
Insulation installation: Johns-Manville Sales Corp.
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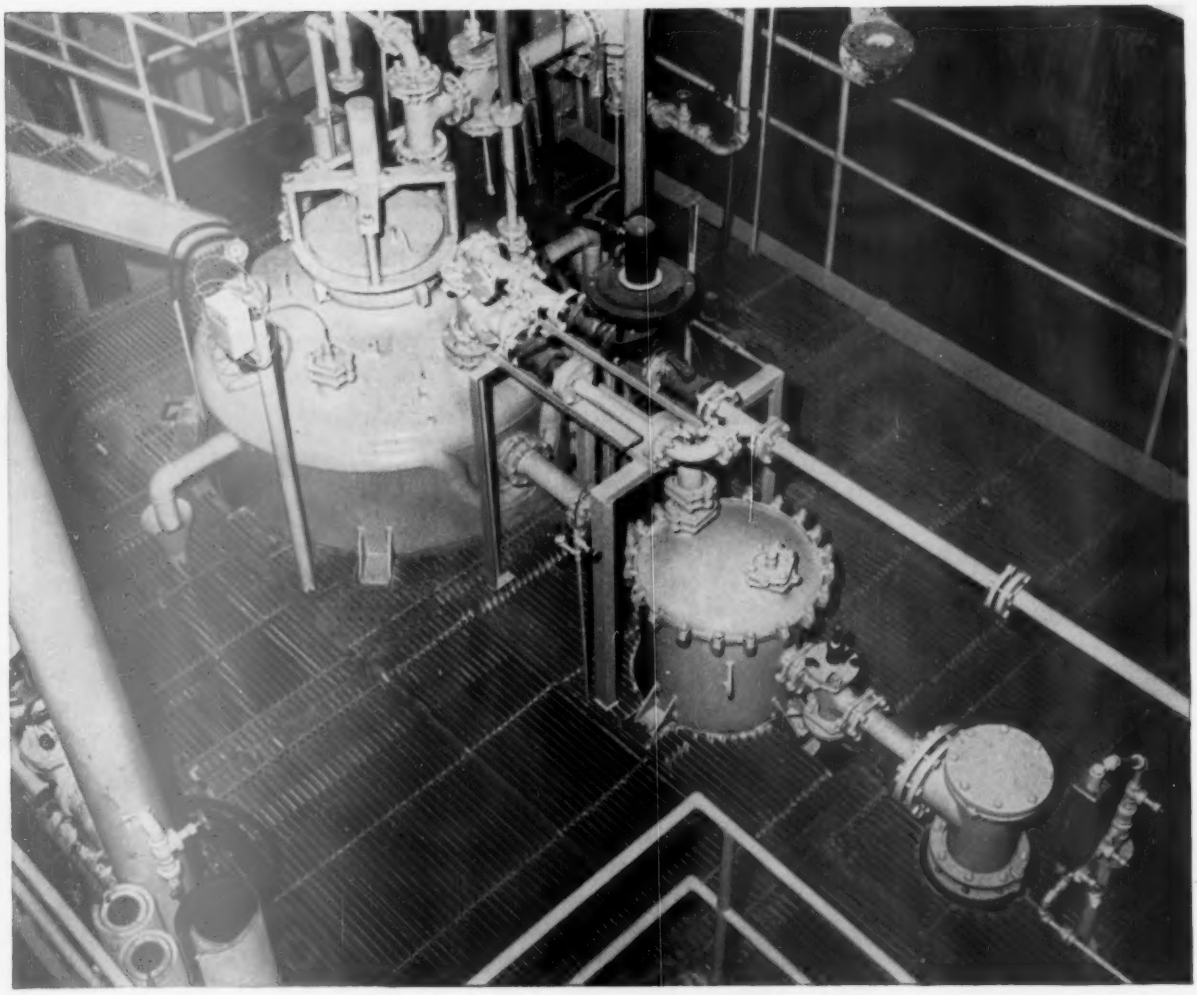

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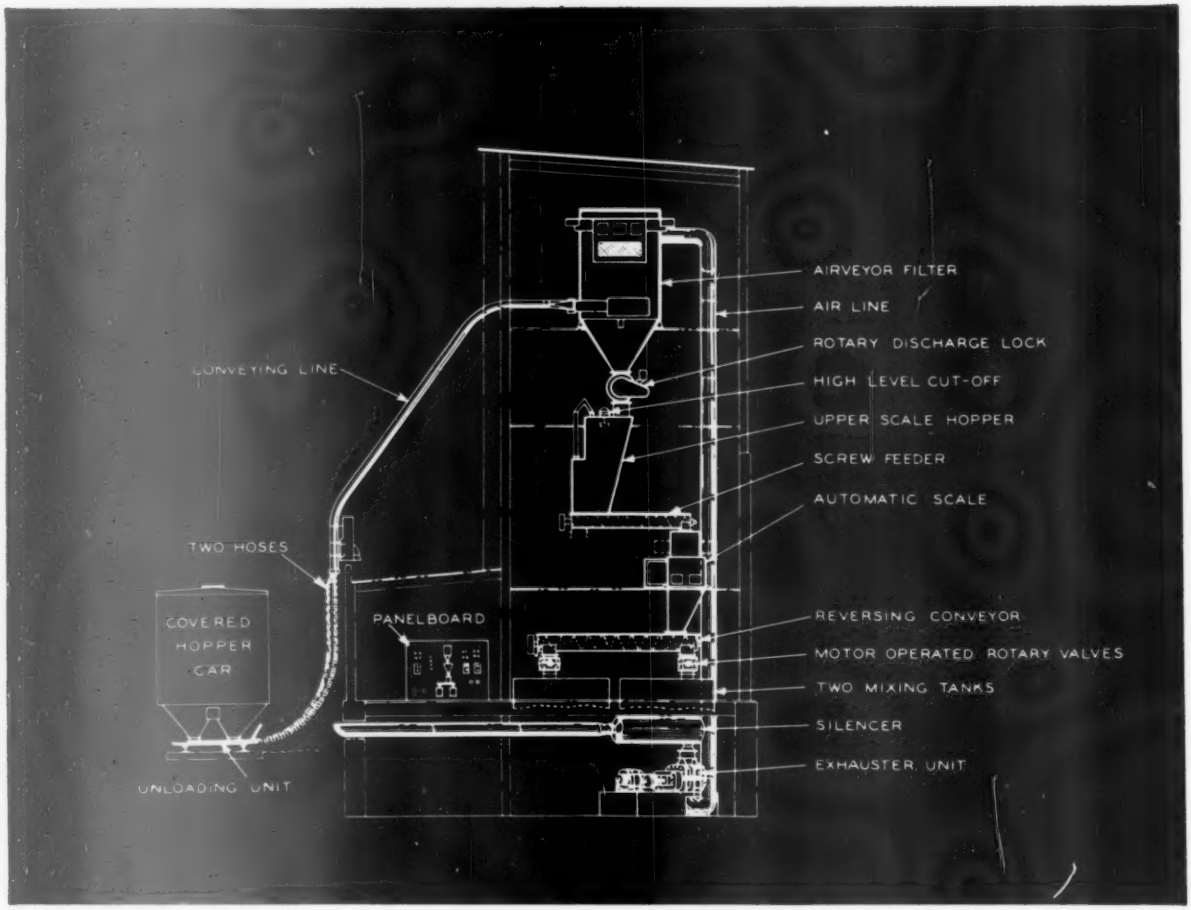

Fuller conveying system helps paper mill cut clay handling time 65%

At New York & Pennsylvania Company's Johnsonburg, Pa., paper mill a new completely automatic clay slip preparation tower speeds production. New unloading equipment has a capacity of 25 tons per hour. This is in contrast with the old manual method in which 6 men worked 5 hours to unload 30 tons of bag clay. How did New York & Penn do it? With a pneumatic conveying system designed and built by the Fuller Company.

Clay is delivered by railway car. Each car holds 50 tons of clay which drops by gravity through outlets directly into the unloading unit then into the conveying system. This consists of two 5-in. flexible hoses connecting into a main 8-in. conveying line. Clay is conveyed through a Fuller Airveyor® system to an Airveyor filter on the top floor of the building. From the filter, the clay is discharged into a surge hopper through a totally-enclosed Fuller rotary airlock. A Fuller high-level indicator on the hopper automatically opens a vacuum breaker in the conveying line in the event that clay is unloaded faster than the equipment following the hopper can take it away.

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See Chemical Engineering Catalog for further details and specifications.

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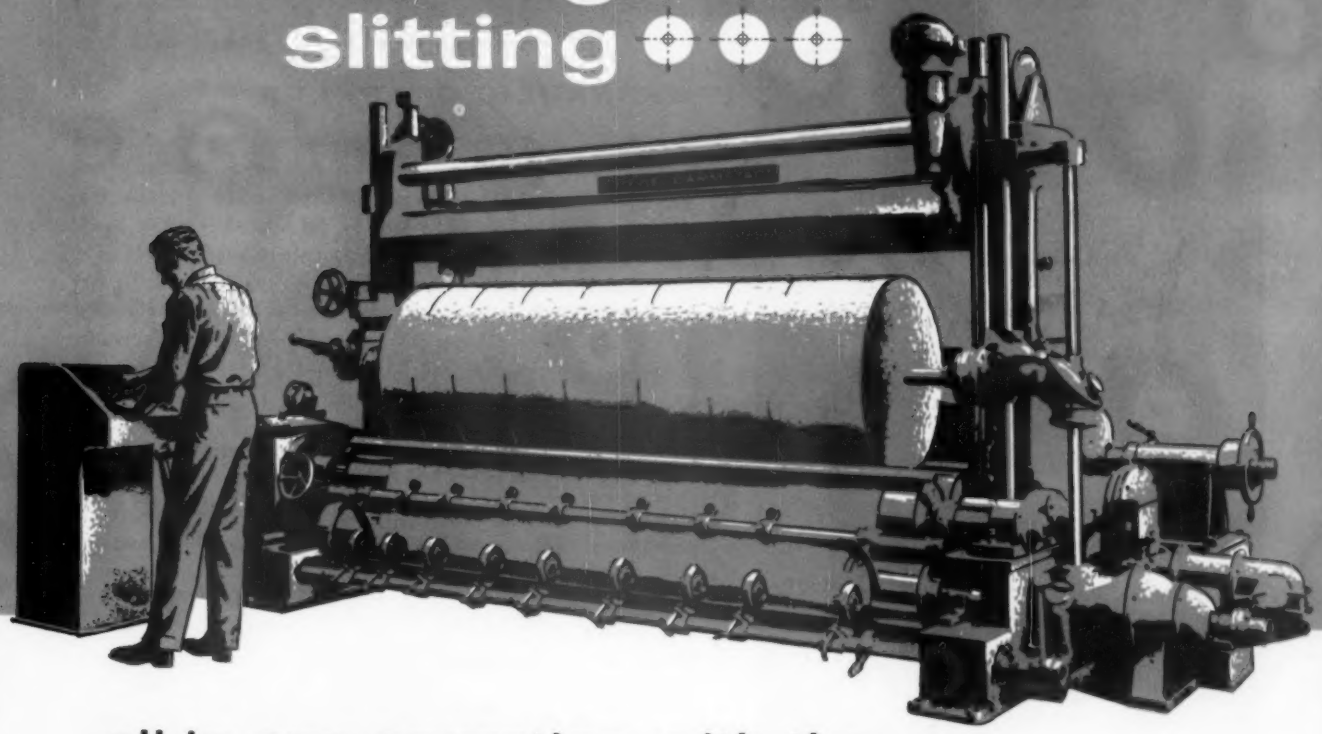

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Machine dimensions:

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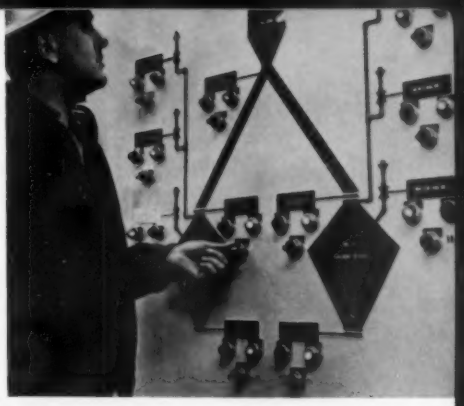


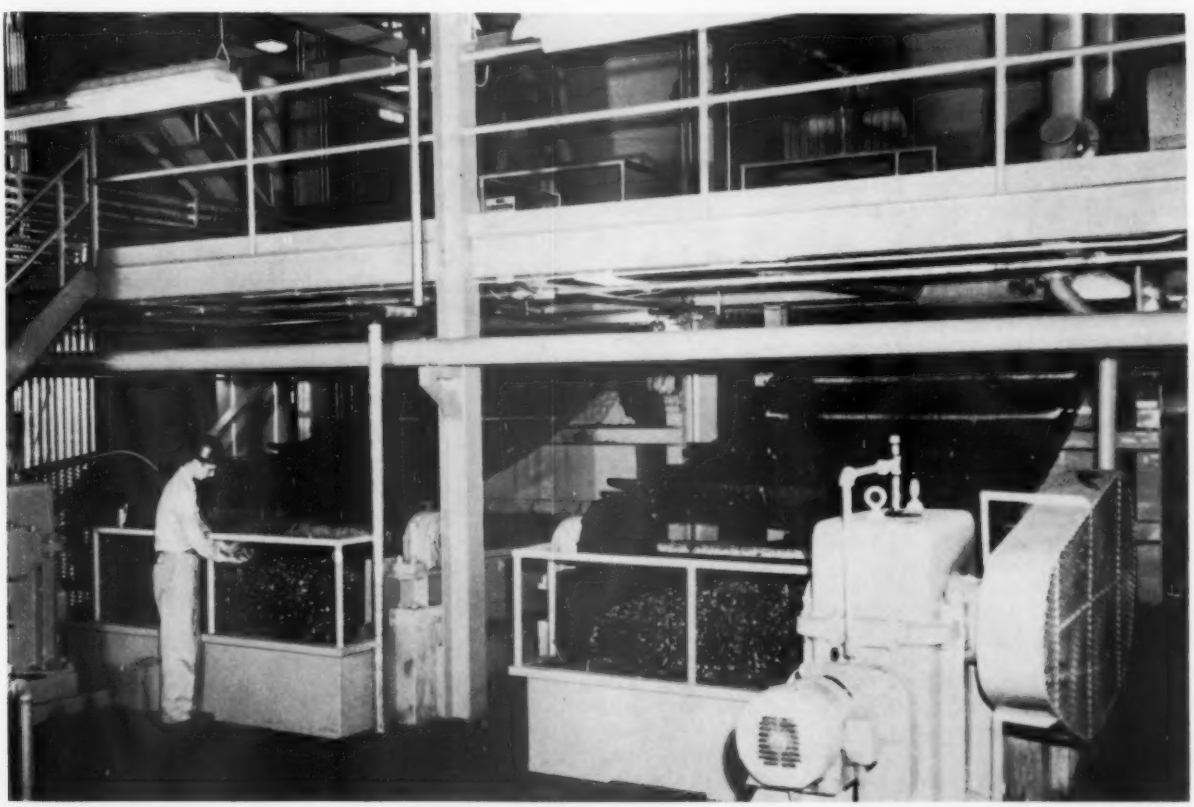
Savannah, Ga. SAWMILL SLABS ARE BEING chipped with bark on in a new operation at Union Bag-Camp Paper Corp.'s mill here. Chips are then placed in tanks and put under vacuum. While still under the vacuum, they are immersed in water. When the vacuum is released, the fibrous wood absorbs water, the bark does not. Waterlogged chips then sink in the water, the bark floats and can be skimmed off (similar to the flotation type saveall). Chips are removed from the bottom.

The Vac-Sink process is an outgrowth of a joint research project sponsored by some 17 Southeastern pulp and paper companies at Battelle Memorial Institute. In the fall of 1955, these companies met at Battelle in Columbus, Ohio to discuss some new ideas in debarking.

Battelle's approach was this. Sometimes our research men are called to do work in a field in which they are unfamiliar. But, by taking ideas which have been applied in other industries, they may develop a solution for the particular industry being studied.

At the annual meeting of the American Pulpwood Assn. in February, 1957, William T. Reid, asst. technical director of Battelle, announced that a "debarking project for separating chips from bark by flotation has been successful in a pilot plant." At that time, PULP & PAPER said the next step was a commercial plant.

Since then, because of patent applications, there has been little publicity about the process. One of the sponsors of the project had told PULP & PAPER that the process appeared to be too expensive. The start-up of the Union Bag-Camp project apparently contradicts this opinion. Union Bag-Camp says its new operation can handle about 100,000 cords/year of the sawmill slabs which constitute about 25% of the wood volume of logs used in making lumber. ■



BARK AND CHIPS are separated by vacuum. System begins in cone-shaped tanks at top of photograph. Barks and chips are drawn from the bottom of these tanks and skimmer removes bark from top of vat while chips sink and are removed from bottom. Control panel for the system is shown in photo at top of page.

By converting its operation from straw to wood, this company had an opportunity to study all existing woodyards . . . that is why . . .

Weston Features Simplified System for Handling Wood

ALL OF THE MILL REQUIREMENTS for The Weston Paper & Mfg. Co., are currently being met by pulpwood purchased within a 75 mile radius of the mill. Although there are rail facilities for receiving pulpwood at the mill, current procurement needs have been met entirely by truck receipts.

The wood procurement program is headed by William W. Kautz, director of wood procurement and Harold Lyon, wood buyer. At present, the company buys wood from 187 individual producers. These will each produce from 4 to 40 truckloads per month. Loads average about 7 tons. Wood is bought by weight and in units. A unit of 4x8x6 is about 192 cu. ft., weighs approximately 3.6 tons, based on the average weights of mixed hardwoods.

Wood purchases are made in 6-ft. sticks with a maximum diameter of 16 in. and a minimum diameter of 5 in. All native Indiana hardwoods are accepted with the exception of black locust, osage orange, hickory and black walnut. This market for low-grade hardwoods which are not suitable for lumber production will add a substantial income to the economy of the Wabash Valley.

Incoming wood is handled by a Pettibone-Mulliken Cary-Lift or an American crane with an Owen grapple. During the inventory building period, both crane and units were used to pile the wood in ricks. With start up of the woodroom, the crane has been used to unload directly into the log conveyor leading to the debarking drum. The Cary-Lift is used for unloading and stacking where maneuverability is needed. Thus far, the wood has been received at a steady rate, which has made the building of a heavy pulpwood inventory unnecessary. It is anticipated that a 90 to 100 day supply of pulpwood in the woodyard will be adequate to assure safe operation of the mill during slack cutting seasons.

Logs are fed to the debarker with a chain conveyor, with a loading apron 96 ft. long. The loading apron runs parallel to a rail siding where logs may be unloaded directly from rail cars into the conveyor. The debarking drum is 12 ft. by 67½ ft. The Fibre Making Process unit, chain-suspended, has three sections. Each section is driven by a Falk gear reducer and fluid coupling drive, which give a drum speed of 6 rpm. The discharge end of the drum has an air-operated vertical discharge gate adjusted to regulate the flow of logs in the drum. Capacity of the drum is 25 to 35 cords an hour.

Bark removed from the logs in the drum is chuted to a 30 in. wide belt, 80½ ft. long and transferred to a refuse bin by a 35 ft. long chain drag conveyor. Fines from chip screening are brought here also by another chain drag conveyor. At present, refuse is dumped and burned.

Debarked logs discharge from the drum onto a 60 in. by 47 ft. long rubber sorting belt. A reversing drive carries the sticks either to the chipper or to a discharge chute for peeled logs. Peeled logs are reclaimed by a three strand jack ladder chain conveyor 40 ft. long.

The D. J. Murray 90 in. diameter chipper has 10 knives and operates at 400 rpm. It is driven by a 500 hp, 720 rpm Westinghouse motor and V-belt drive. Chipper production is 25 to 35 cords an hour of ⅝ in. chips. The chipper has a blower housing for blowing chips to a cyclone and a 19 in. dia. spout with a pneumatically operated, linked cover for raising to release oversize logs or jams. A disc brake assembly stops the chipper when power is cut off, since the discharge line may be plugged by logs.

Chips are blown to a cyclone and are fed at a uniform rate to an Orville-Simpson screen by a chip feeder. The feeder is a rotary unit revolving at 26 rpm and has a maximum capacity of 8,400 cu. ft./hr.

The chip screen has a capacity of 33 cords/hr. and has two screening surfaces for separating acceptable chips from slivers, overs and fines. Oversize rejects discharge from the lower end of the screen surface into a D. J. Murray 40 in. 6-knife rechipper. The rechipper is driven by a 15 hp 900 rpm direct connected Westinghouse motor. Discharged chips are blown to the cyclone for rescreening. Accepted chips from the screens discharge onto a 30 in. wide by 23 ft. long inclined belt conveyor and are transferred to a bucket elevator leading to the chip storage silo.

Chips are stored in a Stebbins tile silo 35 ft. dia. and 80 ft. high. A flight conveyor at the top of the silo distributes the chips so that the silo can be completely filled

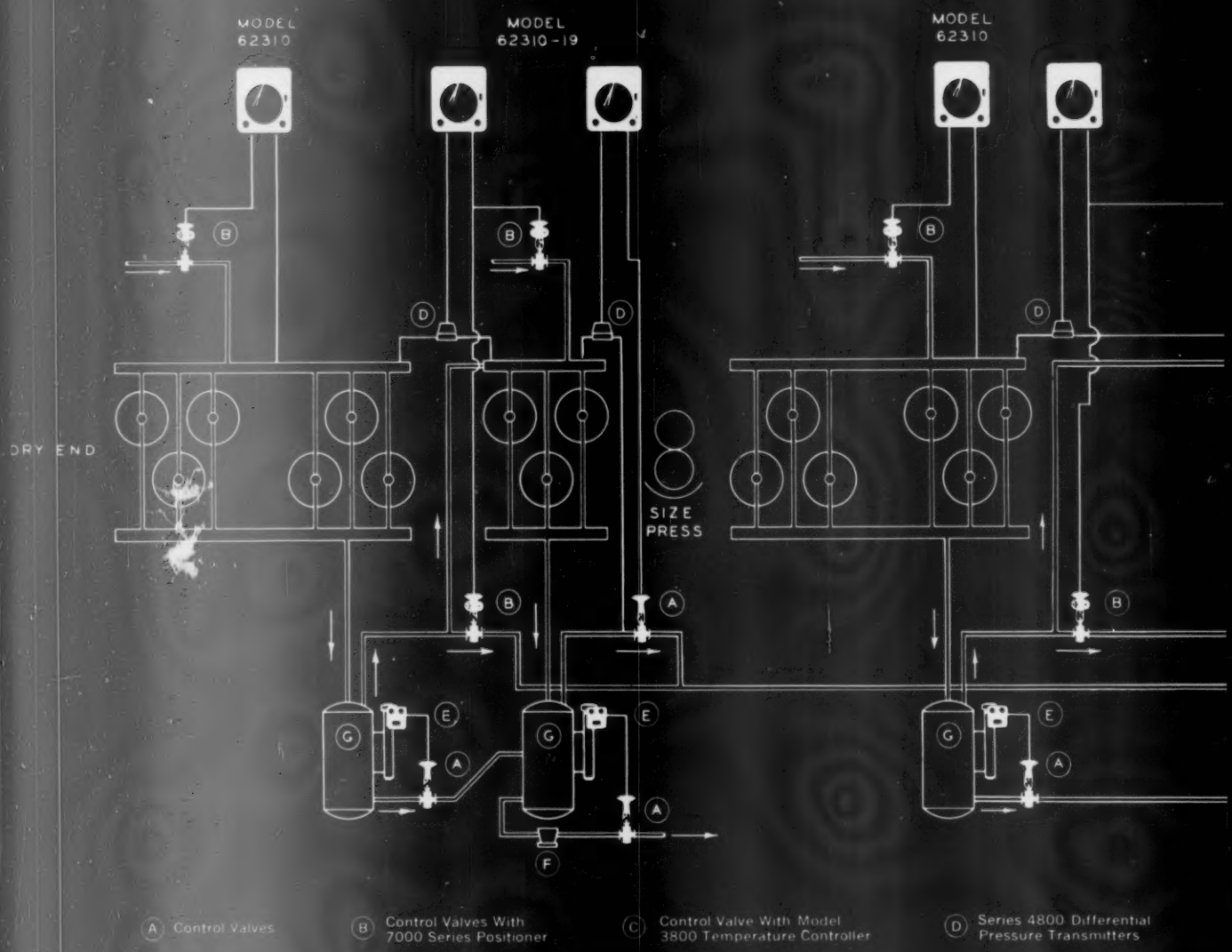
The woodyard and woodroom are operated one shift per day and furnish a 24 hour supply of chips to the pulp mill. Controls for the woodyard conveyors and woodroom equipment are on a console control panel on the second floor of the woodroom. One man controls the entire woodroom operation and woodyard conveyor units from the console. The console is located so that the operator can see the log conveyor in the woodyard and observe the logs entering the wood processing equipment. ■

WOODYARD LOCATION is at lower right of photo at left. New semi-chem mill is at end of debarkers. At right, mixed hardwoods are weighed in as they arrive at mill.

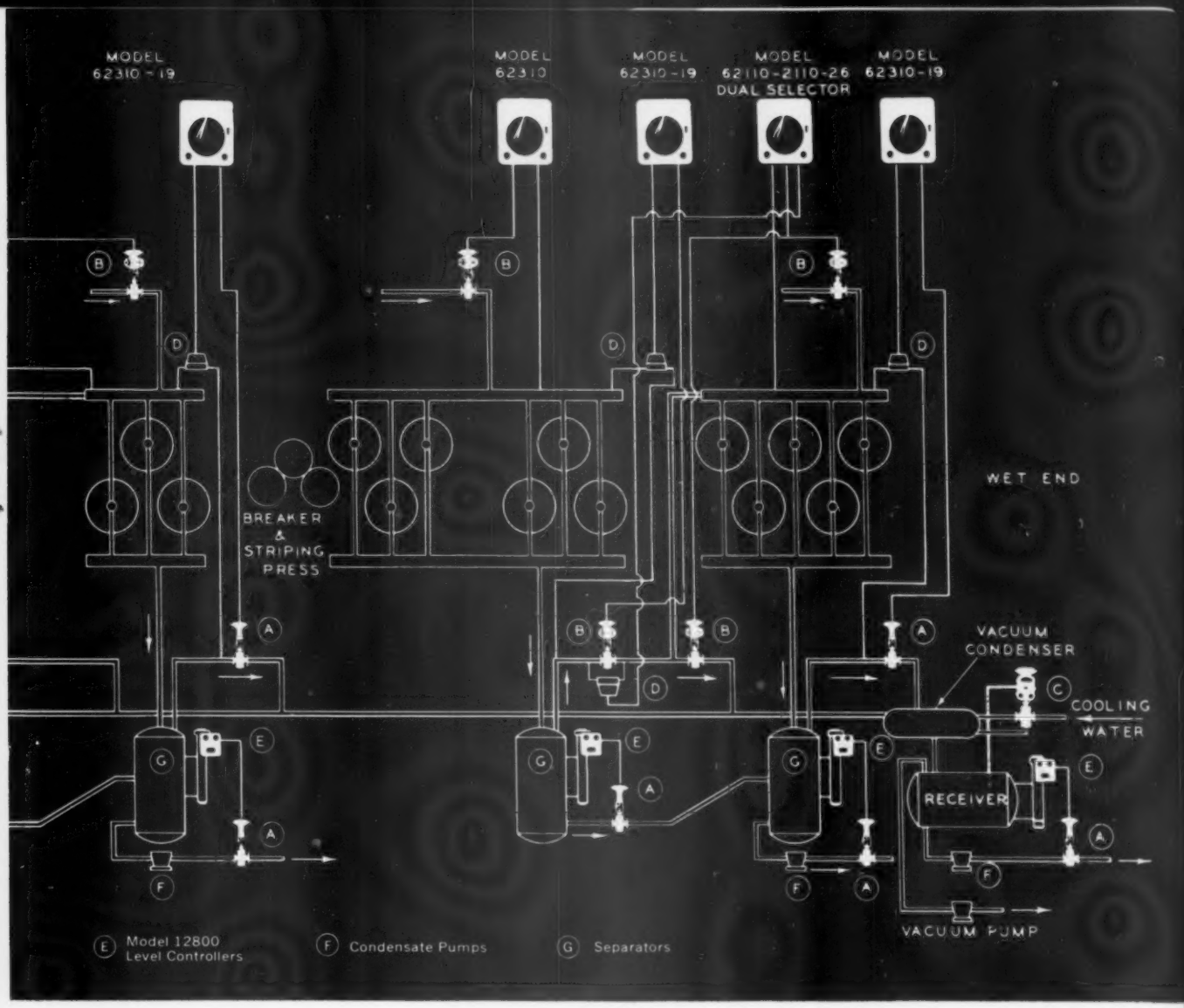
HIGHLY MOBILE rubber tired American crane unloads logs and reclaims pulpwood to conveyor. Cary lift, right, moves logs to 96-ft.-long conveyor to apron feeding drums.

PEELED LOGS enter woodroom where console at left controls woodyard and woodroom operations. Note operator uses clothes-line safety attachment working near chipper.

CHIPPER CAPACITY is 25 to 35 cords an hour. At left is 90-inch, 10 knife chipper with 500 hp., 720 rpm Westinghouse motor. Murray 40 in., 6 knife rechipper is at right.



Quality + Efficiency in Papermaking



. . . with MASONEILAN Drying and Drainage Systems

An essential element in the production of quality papers is proper drying — obtainable only through accurately controlled steam, efficiently applied to driers.

Masoneilan Drying and Drainage Systems are individually engineered for each paper machine to provide accurate control of steam pressure to the driers and continuous evacuation of condensate, air and non-condensables from all driers, through means of closely controlled differential pressures. This insures improved paper quality, reduced tonnage losses, maximum drying efficiency, and increased machine speed and flexibility.

These systems are available for Single and Multiple Section Paper Machines and for Yankee Driers, including Warm-up Control and Automatic Surface Temperature Control. Mason-Neilan engineers the systems and furnishes all equipment and controls — one source and undivided responsibility — for both new and rebuilt machines.

Send for Bulletin PD 113 . . .
for descriptions of basic Masoneilan Control Systems and related equipment; and for cooperation in engineering, contact a Masoneilan representative or write direct.

MASON-NEILAN

Division of Worthington Corporation

65 NAHATAN ST., NORWOOD, MASSACHUSETTS

Sales Offices or Distributors in Principal Cities in United States and Abroad • In Canada: Worthington (Canada) Ltd., Mason-Neilan Division

MNO-13

*Idea submitted by Donald F. Somes, Simpson Lee Paper Co., Lowell, Washington
Photo: Courtesy Convair Div. General Dynamics Corporation

"Reminds me that HAMILTON Felts, too, deliver more tonnage, faster, with fewer stops!"

YOU CAN'T BEAT
Hamilton
FELTS

"Like the new jet airliners,
long-lasting Hamilton Felts
are 'best in the long run.'
All Hamilton Felts are 'water-conditioned'
deliver drier sheets to the drier,
keep your machines running at top speed . . .
longer . . . with fewer stops . . . turning out
more tonnage, less broke, more profits.

If one of our 'standard 300' modern,
technically proven styles won't solve
your needs, we will be happy
to design a Hamilton Felt that will.
Just ask your Hamilton Felts Service Salesman."

*WIN . . . *A NEW Shakespeare Spincast Fishing Outfit!*

"What famous place reminds you of Hamilton Felts? Tell us why in a few words; sign your name and address and name of company. Each idea from a U.S. papermaker that we use wins a new 1961 model Shakespeare Spincast Rod and Reel—FREE! When identical winning ideas are submitted by 2 or more papermakers, the one with the earliest postmark will be considered the winner. Every U.S. papermaker *entrant* receives a famous Rex Spoon fishing lure — FREE. Send me your suggestion — today. Ham Feltz, Dept. PP, 612 First National Bank Bldg., Cincinnati 2, Ohio."

SHULER & BENNINGHOFEN, HAMILTON, OHIO

Every 7 seconds . . .

Lapsed time between OIC installations is being reduced month by month. More and more maintenance men know they can count on trouble-free operation when they replace worn out valves with OIC. Performance-proven design features include stems made from special OIC Alloy 40 on bronze valves. Result . . . seizing completely eliminated . . . corrosion minimized . . . wear greatly reduced. OIC stems will outlast ordinary valve stems 10 to 20 times. Your local OIC distributor carries a complete line of bronze and iron gates, globes, angles and checks. Call or write today for further information.

BETTER VALVES AND BETTER DISTRIBUTOR SERVICE FROM OIC

someone . . . somewhere . . . installs another OIC valve!

OIC VALVES

BRONZE, IRON, FORGED STEEL, CAST STEEL AND DUCTILE IRON VALVES

INDUSTRIAL DISTRIBUTORS SERVING INDUSTRY ECONOMICALLY THE RIGHT HAND OF PRODUCTION

THE OHIO INJECTOR COMPANY, WADSWORTH, OHIO

THE OHIO INJECTOR COMPANY 10231-OI

255 Main St., Wadsworth, Ohio

I need more information about OIC bronze an iron valves.

Name_____

Company_____

Street_____

City_____ Zone_____ State_____

NEW EQUIPMENT

Spray gun

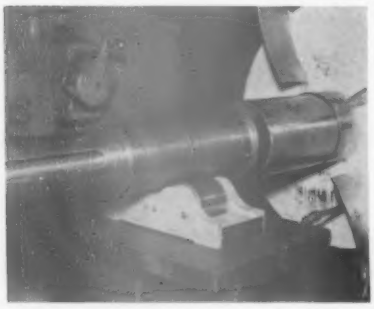
. . . for thick floor coatings

Applications: For spraying smooth coating on plant floors.
Advantages: Spray gun will apply a smooth, even coat of catalyzed coatings mixed with fillers such as silica and aluminum oxide. Coatings can be sprayed as thin as 1/16 in. and up to any desired thickness in one coat. System replaces slow, expensive troweling, says the manufacturer.
Specifications: Carboline floor spray gun has a 10 gallon holding tank. Mixed material, under air pressure, passes through a 2 in. flexible hose to a spray nozzle. Regulated atomizing air forces the material into a round spray pattern. Material holding tank rides on ball bearing wheels, which permit easy movement during spray operations.

Photo shows application of floor coatings by trowel and spray technique.
Supplier: **Carboline Co., St. Louis 17, Missouri.**

Rotor balancer

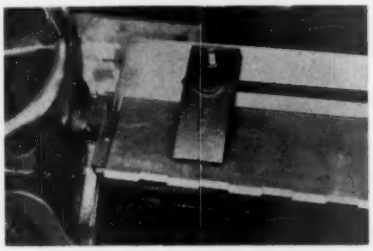
. . . is portable



Applications: For balancing pump runners, rotor shafts, fans and sheaves weighing from 50 lbs. to 5 tons.
Advantages: Heavy balancing can be done on job site. Used as a supplementary tool in dynamic balancing operation to reduce balancing time, unit protects machine against shock damage. Also, used as a "check" balance against eccentric drives.
Specifications: Handles rotors of any diameter, any width. Wide runner protects heavy shaft from cut-in damage, provides free-rolling action. Glass hard concave bearing races honed into spindle shaft. Adjustable carriage for easy levelling of irregular size shafts. Available in two models, six sizes.
Supplier: **Industrial Balancing Engineers Div., Calkins Machine and Tool Works, East Main St., East Aurora, N.Y.**

New grinder

. . . for flaker knives



Applications: For regrinding flaker knives.
Advantages: Fine edges are generated on both high and recessed faces of flaker serrated knives with speed and precision. Longer edge life, fast regrinding and accurate production of flakes are some advantages, stressed by maker.
Specifications: Machine design permits automatic infeed and retraction of the grinding head to develop a fine edge on the recessed faces of the knives. Machine is an adaption of model GK grinder. It is arranged for easy removal and replacement of the grinding wheel without disturbing spindle bearings. Spindle is high carbon steel mounted on ball bearings.
Supplier: **Hanchett Mfg. Co., Big Rapids, Mich.**

Logging tire

. . . is dual purpose

Applications: for logging rigs and pulpwood haulers.
Advantages: Flo-Track combines off-the-road advantages of flotation tires with long mileage in highway service.
Specifications: Off-the-road flotation is provided by flexible side walls, low operating pressures (55 lbs.) and extra wide tread. Tires spread out under load to float over difficult soils and eliminate need for crawler or winch truck assistance.

Extra wide foot print and soft rise of the tire minimize bounce and vibration, reducing drive fatigue as well as wear and tear on rear axle, differential and transmission.

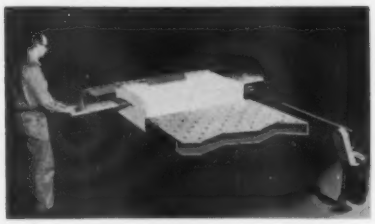
The tire design incorporates a special all purpose highway tread on a flotation tire body. It will deliver 30,000 miles between new treads in average service, says the maker.

A single 18.5 x 20 Flo-Track replaces a set of standard duals on single or tandem axles and provides more than doubled tread contact area. Standard tire sizes are 18.5 x 20 for rear mounting and 15.40 x 20 front, replacing 8.25 x 20 to 11.00 x 20 originals. Carrying capacity of the Flo-Track tires are 23,000 lbs. and 10,000 lbs. respectively.

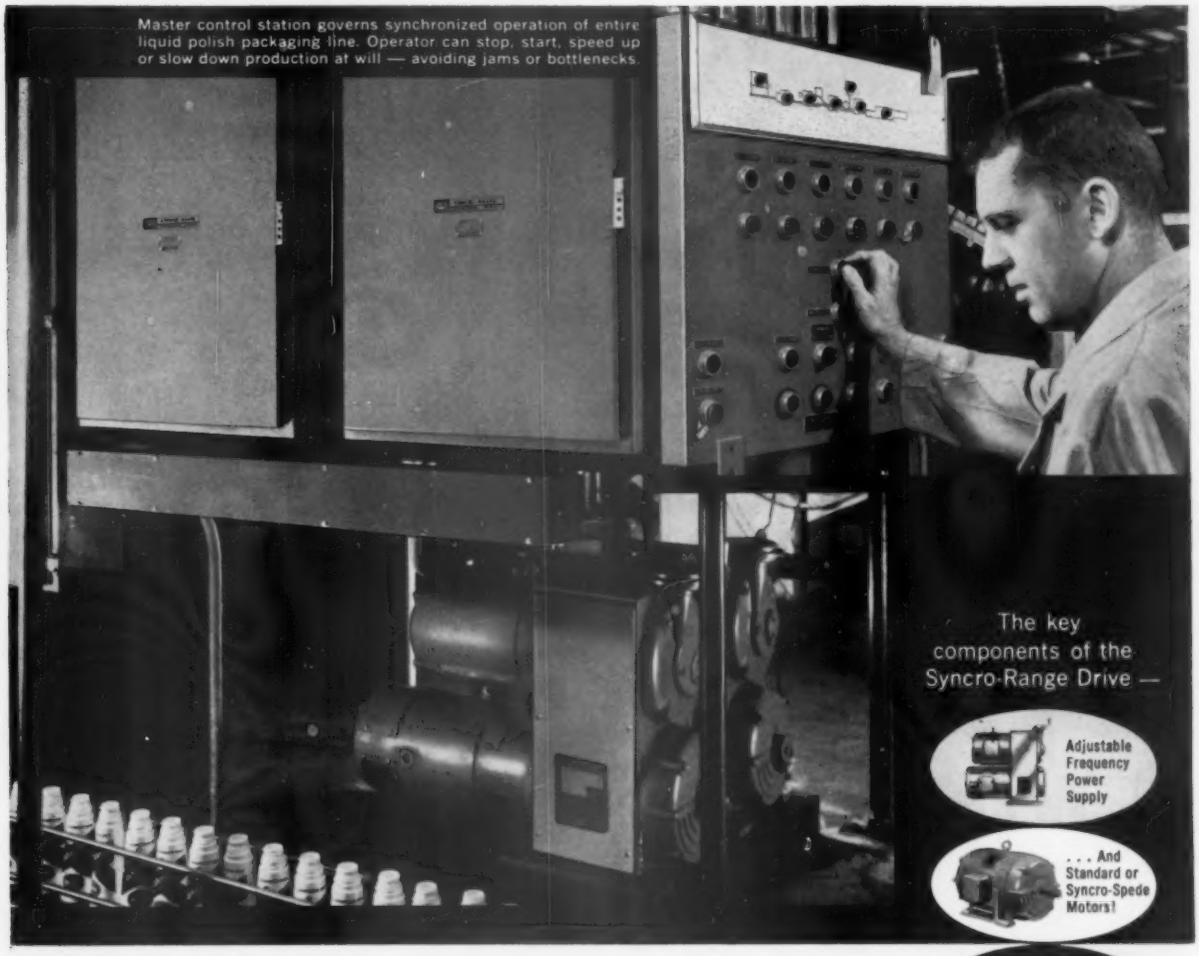
Tire, tube and rim assemblies are mounted directly on standard truck hubs. No other conversion is needed.
Supplier: **Harmo Tire & Rubber Co., 1800 West Fort, Detroit 16, Mich. Tel. TA 5-7344.**

Unstacker

. . . has airfloat operation



Applications: To economically separate and unstack lifts from skidded stacks, Lamb-Grays Harbor Company has recently introduced a one-man Airfloat Unstacking Mechanism.
Advantages: One-man operation. The operator inserts the blade into the corner of the stack, energizes the drive, and moves the blade through the stack. At the back edge, he drops the pusher bar behind the lift to be removed and reverses the drive to push the lift forward on a Lamb Airfloat table.
Specifications: Unit has hollow-formed blade with orifices in the manner of Lamb Airfloat tables. One end is power driven through the stack to separate it at the desired level. End of the blade opposite the operator fits on a pin on a motorized travel bar. Forward and reverse travel through the stack is controlled by a toggle switch on the handle of the blade. A pusher bar is mounted above the blade and assists in removing the stack from the skid.
Supplier: **Lamb-Grays Harbor Company, Inc., P. O. Box 359, Hoquiam, Washington.**


Master control station governs synchronized operation of entire liquid polish packaging line. Operator can stop, start, speed up or slow down production at will — avoiding jams or bottlenecks.
The key components of the Syncro-Range Drive —
Adjustable Frequency Power Supply
. . . And Standard or Syncro-Spede Motors!

LOUIS ALLIS SYNCRO-RANGE DRIVES automate liquid polish lines

Johnson's Wax, renowned wax and polish producer, uses Syncro-Range Drives for exact control of process lines

Controlling the speed of the precise, mass-production lines for their new, highly successful liquid shoe polish was the task Louis Allis engineers had to solve for Johnson's Wax.

The problem was to time the flow of plastic bottles, liquid polish, wool daubers, and caps into the packaging lines at precisely equal rates. Flow rate must be adjustable so the lines can be slowed down or speeded up. And the entire packaging operation must be controllable from a single master control. The Louis Allis Syncro-Range Drive solved the problem.

Syncro-Range Drive provides synchronized speed of any number of motors from a single control. It is a "packaged system" comprising an adjustable frequency power supply operating on 3 phase, 60 cycle power input . . . a group of Syncro-Spede® synchronous motors which maintain exact synchronism regardless of varying load . . . and a control which permits the speed of the entire group of motors to be simply adjusted without losing synchronization. On applications for which exact synchronism is not required, standard squirrel cage motors can be supplied.

You can readily see the advantages of the Syncro-Range Drive in systems or processes which require synchronized movement: multiple conveyors which feed consecutively; transfer lines; process lines; assembly lines requiring coordinated arrival of components; printing where one press feeds another; synthetic fibre spinning, drawing, or twisting; metal runout tables; and other similar machines which require the application of power at a number of points on the machine.

The Syncro-Range Drive is available with a choice of drive sizes to efficiently control from 2 to 200 motors. Control features are available to provide speed regulation accurate to 0.1% with 0% relative speed difference between motors! A trained Louis Allis motor application engineer is available to help. You can reach him at your local Louis Allis District Office, or by writing to The Louis Allis Company, 444 East Stewart Street, Milwaukee 1, Wisconsin.

A50-332

LOUIS ALLIS

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES

STRICTLY PERSONAL . . .

Midwest

Sheets Mead Whitaker

George H. Mead, who established one of first research laboratories in the paper industry 50 years ago, is shown The Mead Corp's. new $4.5 million research facility in Chillicothe, by Dr. George H. Sheets and Howard E. Whitaker, chairman of the Board. Dr. Sheets is managing director of research.

James B. Esselman has joined Mosinee Paper Mills Co. as pulp mill supt. He was asst. supt. of the kraft pulp mill for Georgia-Pacific Paper Co. for four years, before that was pulp mill tour foreman for Longview Fibre Co. He began his industry career with Nekoosa-Edwards Paper Co.

Dan B. Chapman, of Appleton, Wis., Midwest sales representative for Morden Machines, Evans Rotabelt and other pulp and paper equipment, and his wife have returned from a trip to the Austrian Alps and Southern Germany.

Donald R. Simonds is now vice pres. and genl. mgr., integrated products, Beloit Iron Works. Group will work with consulting engineers, offer equipment for paper mills in U.S. and worldwide.

C. J. Dwyer has been named general traffic mgr. for The Chase Bag Co. He was formerly asst. to the general traffic mgr. He will continue to be located at Chase traffic headquarters in Chicago.

South

David Wetherhorn, widely-known technical director of Continental Can's Southern Paperboard Div. at Pt. Wentworth, Ga., has resigned to join W. C. Davis and Associates, manufacturers agents for process equipment in Atlanta, Ga. A graduate of Vanderbilt University, Mr. Wetherhorn is presently serving as chairman of the Alkaline Pulping Conference of TAPPI, has also been treasurer of the Southeastern Section. He will be operating from his home at 336 E. 48th St., Savannah, Ga.

C. A. Nobles, prod. supt. of International Paper's Georgetown, S.C., mill has been promoted to asst. mill manager, replacing Adam Rozyskie, who has retired. Mr. Nobles began his career with IP at the Camden, Ark., mill in 1928 and has served in various capacities throughout the Southern Kraft Div. He became prod. supt. in Nov., 1955. . . . **William M. Clark** has been named sales mgr. of the Chlor-Alkali div. of Food Machinery and Chemical Corp. for the Southern Dist. He will headquarter in Charlotte, N.C. **William Neese** is sales mgr. for the mid-southern district with headquarters at Cincinnati, Ohio.

Nienow

Orr

Marquardt

Olfson

Arendt

Campbell

Marathon Southern plant mgr. **John Spalding** has announced six promotions at the Naheola, Ala., plant. **Floyd W. Nienow** is now plant engineer; **Tom Orr,** former technical services supt. becomes production supt.; **Jerome C. Marquardt** replaces him as technical services supt.; **John W. Olfson** has been named converting supt.; **Glenn A. Arendt** has been transferred from Central Engineering at Menasha to become maintenance supt. and **Keith "Skip" Campbell** moves from Rust Engineering to take over as electrical maintenance supervisor.

More equipment manufacturers choose Fast's Couplings than any other gear-type coupling

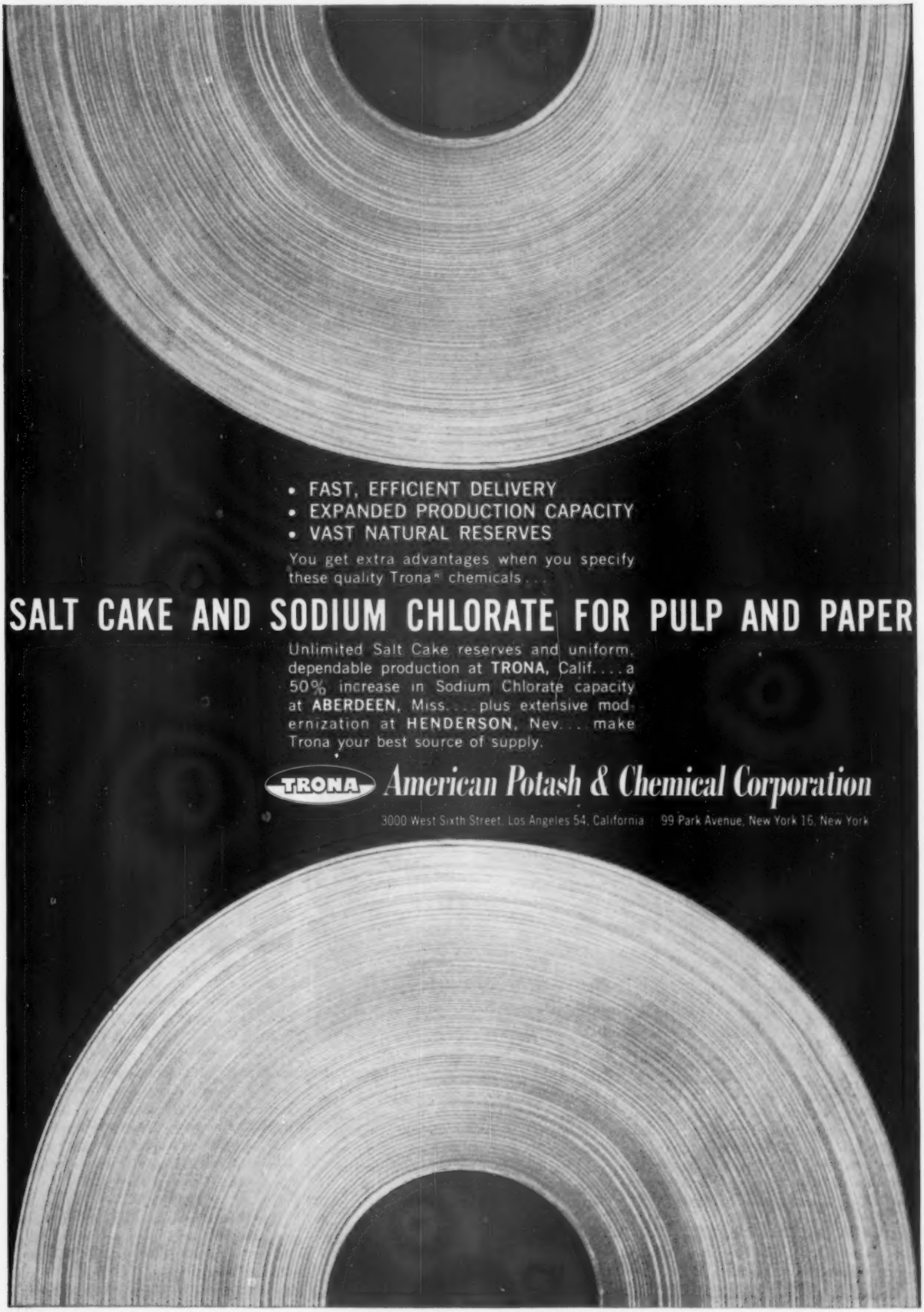
Leaving other claims aside, the thing that counts in couplings is customer confidence—and industrial equipment manufacturers have made Fast's their overwhelming choice. The Fast's line is more diversified, too—in a complete range of sizes and types for shafts, from ½" to 32" and larger.

Every Fast's Coupling brings you superb engineering only the original gear-type coupling can deliver. Smooth-running units that are designed to outlast the machines they connect. Rapid service from experienced field engineers backed by outstanding stock facilities. Write today for full details on couplings to suit your needs to: KOPPERS COMPANY, INC., Fast's Coupling Dept., 1305 Scott St., Baltimore 3, Maryland.

KOPPERS

FAST'S COUPLINGS

Engineered Products Sold with Service


• FAST, EFFICIENT DELIVERY
• EXPANDED PRODUCTION CAPACITY
• VAST NATURAL RESERVES
You get extra advantages when you specify these quality Trona® chemicals . . .
SALT CAKE AND SODIUM CHLORATE FOR PULP AND PAPER
Unlimited Salt Cake reserves and uniform, dependable production at TRONA, Calif. . . . a 50% increase in Sodium Chlorate capacity at ABERDEEN, Miss. . . . plus extensive modernization at HENDERSON, Nev. . . . make Trona your best source of supply.
TRONA
American Potash & Chemical Corporation
3000 West Sixth Street, Los Angeles 54, California
99 Park Avenue, New York 16, New York

STRICTLY PERSONAL . . .

East

Dr. Allan C. Hill has been elected president of Montmorency Paper Co., Inc., U.S. sales and service representatives for Anglo Paper Products. He will move to New York City where Montmorency has established new offices at 230 Park Ave. **Robert T. Houk,** formerly with Great Lakes Paper Co. Ltd. in Chicago, joins Montmorency as executive vice president, newsprint sales. **Stanley Meighen,** formerly with Columbia Cellulose Co. Ltd. and Consolidated Sales Co. in Canada (newsprint) also joins Montmorency in newsprint sales. **Roland N. LeClair** continues as vice president, newsprint, and **Victor R. Coudert Jr.** continues as vice president i/c pulp sales.

The New York staff of Gilman Paper Co. and subsidiaries, headed by **Harold Holden,** president, have moved offices from 630 Fifth Avenue to Time & Life Bldg., Rockefeller Center, 111 West 50th St., New York 20, N.Y. The new phone is CI 6-3300.

Henry F. Scheetz, Jr. has been elected a director of Paterson Parchment Paper Co. He is a director of Brown Co., was formerly board chairman of Brown and a vice pres. of Standard Packaging Corp. . . . **Morton J. Harris** has been promoted to general mgr., Utica Div., Doeskin Products, Inc. He succeeds **Howard Rowan,** who left to take a similar post with Steiner Tissue Mill, Albany, N.Y. . . . **J. T. O'Connell,** former Under Secretary of Labor has joined Hudson Pulp & Paper Corp. as director of industrial relations . . .

Nicholas Shoumatoff joins Parsons & Whittemore-Lyddon Organization as chief engineer, pulp and paper mill project div., Lyddon Co., Ltd. in London, England.

Albert S. Landers has joined TAPPI as supervisor of technical information. He will expand present TAPPI data sheets to cover all areas of pulping, papermaking and converting.

Peterson

Ayers

Philip A. Peterson is now chief engineer, i/c trailing blade coaters, Rice Barton Corp. He is a specialist in coating methods and equipment, will be responsible for both engineering and sales. **W. Lewis Ayers** has been named sales engineer for Rice Barton, covering Maine, New Hampshire and Vermont from the Worcester sales office.

Pacific

Howard W. Morgan, director of Weyerhaeuser Co. and vice pres. of its pulp, paperboard and container group, Tacoma, Wash., receives honorary doctor of science degree from N.Y. State Col. of Forestry, Syracuse University. The presentation was in conjunction with the school's 50th anniversary seminar. Mr. Morgan graduated in forestry at Syracuse in 1926, obtained his master's degree there in 1928.

Frank L. Bennett, former pres. of Growers Container Corp., is appointed dist. mgr. of St. Regis Paper's corrugated container operations at Tacoma, Wash., Salinas and Fullerton, Calif.

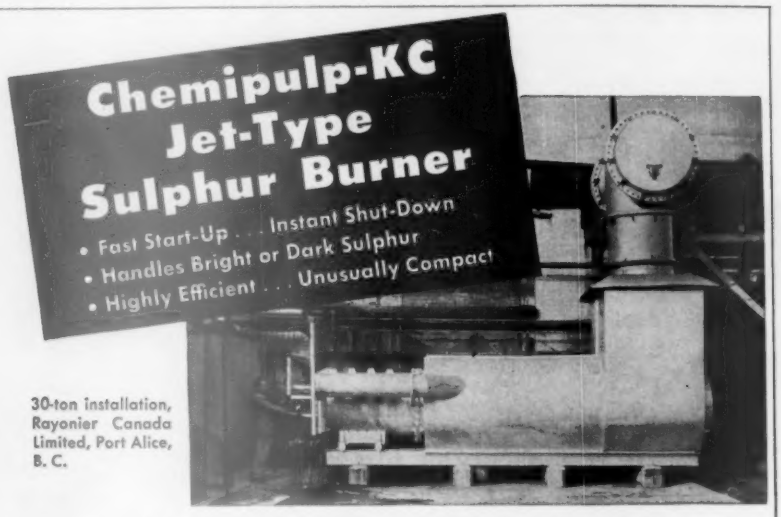
McKinnon

Sullivan

Cropper

Rayonier Inc. appoints **M. J. McKinnon** purchasing agent of Pac. NW. operations, Seattle, Wash., to succeed **John D. Sullivan** who retires May 1. Mr. Sullivan was associated with Rayonier over 30 yrs., joining purchasing dept. when first formed. Mr. McKinnon joined Rayonier in 1942. **George J. Cropper,** formerly res. mgr. of Shelton (Wash.) Div. and for past several years a Rayonier consultant, retires with 30 yrs. service.

Jan Ekermann, a graduate of Royal Institute of Tech. of Stockholm and 5 yrs. with Swedish pulp-paper industry, joins St. Regis Paper Co., Tacoma, Wash. as tech. asst. to paper mill supt. **Syd**


Chemipulp-KC
Jet-Type
Sulphur Burner
• Fast Start-Up . . . Instant Shut-Down
• Handles Bright or Dark Sulphur
• Highly Efficient . . . Unusually Compact

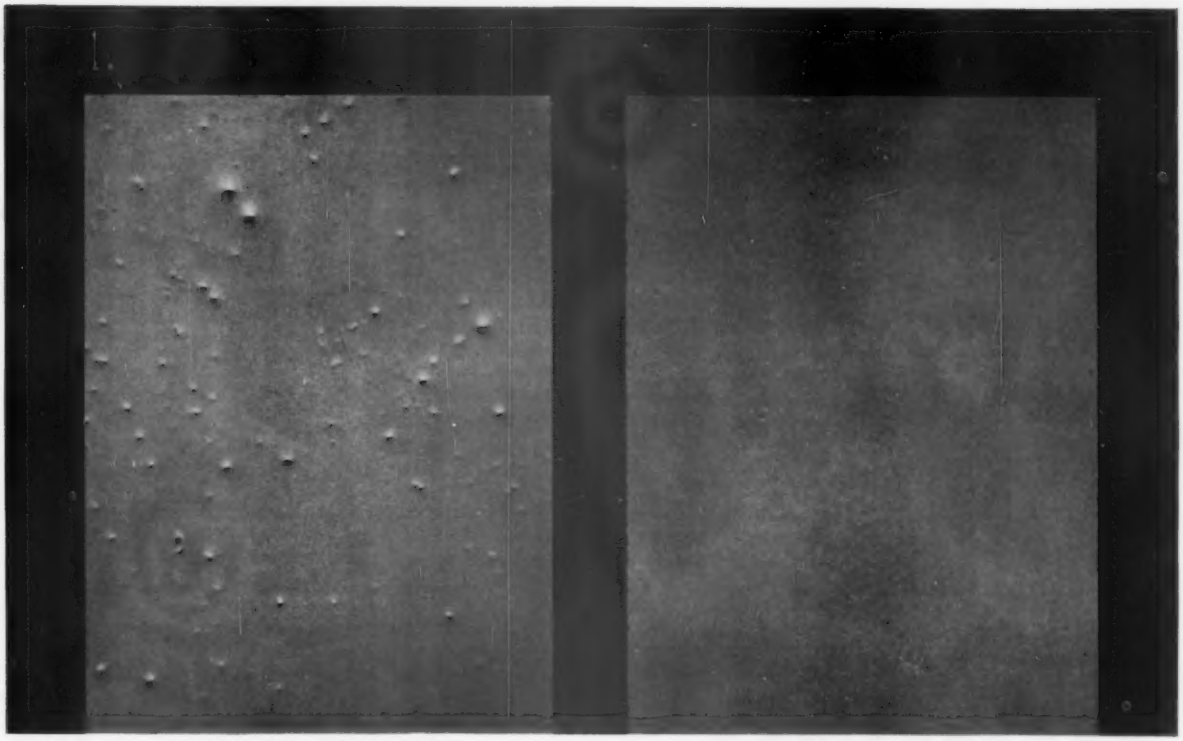
30-ton installation, Rayonier Canada Limited, Port Alice, B. C.

In the Chemipulp-KC Burner, molten sulphur is sprayed into the burner as a fine mist; heated secondary air is then introduced in several stages, resulting in clean, efficient burning. The burner quickly reaches its operating temperature of about 2400°F., minimizing production of SO_3. Operates efficiently at all SO_2 concentrations between 12% and 18½%. At 2100°F, bitumen in dark sulphur is completely burned.

Available in a range of sizes up to 50 tons of sulphur per day and each size will produce SO_2 gas efficiently through a wide operating range. Compact design and flexibility of layout permit installation in limited space.

Write for Bulletin 100

Chemipulp Process Inc. Woolworth Building, Watertown, N.Y.
Associated with Chemipulp Process Ltd., 253 Ontario St., Kingston, Ontario
Pacific Coast: A. H. Lundberg, Inc., P. O. Box 186, Mercer Island, Wash.
Lundberg-Ahlen Equipment Ltd., 779 W. Broadway, Vancouver 10, B. C.



Film of 60% solids dispersion
General Purpose Titanium Dioxide
13X magnification

Film of 60% solids dispersion
TITANOX-A-CG
13X magnification

The right "specs." mean NO SPECKS in paper coatings

Your specifications ("specs.") for coatings can well include TITANOX-A-CG, the Coating Grade anatase titanium dioxide pigment.

Made expressly for paper coatings, this pigment is controlled by rigid specifications that maintain not only whitening, brightening and opacifying power, but also the ease of fine dispersion and the freedom from coarse agglomerates that help banish specks.

For your coatings that must be produced and used with the utmost speed and still yield surfaces of uninterrupted smoothness, let TITANOX-A-CG be your choice in titanium dioxide.

Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; offices and warehouses in principal cities. In Canada: Canadian Titanium Pigments, Ltd., Montreal.

TITANIUM PIGMENT CORPORATION
SUBSIDIARY OF NATIONAL LEAD COMPANY

STRICTLY PERSONAL . . .

Dolan. . . . J. D. Zellerbach, board chairman, Crown Zellerbach Corp., receives Seattle University's 1961 National Award for Economic Statesmanship. He was chosen because of his "lasting contribution to American growth and enterprise, for eminent service to the nation at home and abroad, for personal dedication to the welfare of his fellow man."

Canada

Penney

Barclay

A. B. Penney has been appointed exec. vice pres., Columbia Cellulose Co. and Celgar, Ltd., according to announcement by Pres. T. N. Beaupre. He joined the affiliated companies, which have pulp mills at Prince Rupert and Castlegar, B.C., respectively, in 1956 and until his recent promotion held the office of vice pres., manufacturing. A graduate of the University of Toronto, Mr. Penney joined the bleached kraft mill of Brown Corp. at La Tuque, Que., where he became gen. supt., becoming mgr. pulp and paper manufacturing in Brown Co.'s, Berlin, N.H., operations after war service with the Canadian army. **Ian A. Barclay,** formerly exec. assistant to the president, Columbia Cellulose and Celgar, has been appointed vice pres. and secretary of the two companies, with which he has been associated at Vancouver, B.C., head office, since 1952. He is a graduate of Harvard (M.P.A.) and the faculty of law, McGill University.

Floyd Duncan, formerly groundwood supt., Crown Zellerbach Canada at Ocean Falls, B.C., is now serving in a similar capacity at the Grand Falls, Nfd., mill of Anglo-Newfoundland Development Co. **Stephen Steves** is assistant supt. of the groundwood dept.

Ian Mahood, formerly of MacMillan, Bloedel & Powell River, Ltd., Vancouver, has joined the staff of **J. R. Nicholson,** president, Council of Forest Industries, Vancouver, B.C.

Suppliers

A. L. "Roy" Bolton Jr. Elected President of Bolton-Emerson

Mr. Bolton was treasurer and general manager of John W. Bolton & Sons, Inc., and The Emerson Mfg. Co., Division, Lawrence, Mass. As president, he succeeds **John G. Bolton,** who was elected chairman of the board.

In other company elections, **Frank D. Mitchell** has been made treasurer; **Bruno E. Prevost** continues as vice president i/c operations and **John W. Bolton** has been made clerk.

Since 1959, Roy Bolton has been president of Pulp & Paper Research Centre, Inc., an independently operated affiliate of the parent company. He is also treasurer of Bolton-Emerson S.A., the company's European base of operations in Lausanne, Switzerland.

Casey

Raby

J. M. Huber Corp. has moved its national sales headquarters for paper clays and pigments to the Irving Zuelke building, Appleton, Wis. **Robert J. Casey,** divisional mgr., is now located in the new office with **Karl T. Manthey,** district sales representative. **Claude A. Raby,** asst. divisional mgr., continues his offices at 630 Third Ave., New York 17, N.Y.

Joseph S. Cooper is newly appointed field service mgr. for Lodding Engr. Corp., Auburn, Mass. With Lodding 15 years, he is now i/c of technical advisory services, research and field testing.

MANY FAST'S HAVE BEEN WORKING LONGER THAN YOU

It's a fact. There are plenty of cases where Fast's Couplings have been in service 20 to 40 years. And some of our more enthusiastic engineers say a Fast's should last forever if it's properly applied, installed and lubricated. Whatever opinion you accept, you can bet Fast's Couplings will give you the same smooth-running, low-maintenance, long-lived performance that makes them the choice of more equipment manufacturers than any other gear-type coupling.

For example, Fast's Coupling No. 1347, shipped in July, 1922, is still in service—and the customer is just ordering his first spare coupling 38 years later. KOPPERS COMPANY, INC., 1305 Scott Street, Baltimore 3, Md.

KOPPERS

FAST'S COUPLINGS

Engineered Products Sold with Service

Dryden= Quality and Service

Papermakers know that Dryden is synonomous with quality. But Dryden is also known for complete and efficient service.

Dryden maintains boxcar inventories of sulphate pulps—ready to go at a moment's notice...Cars are constantly on the move all over the country and, in an emergency, can be rapidly diverted...Delivery can be made to any destination in the East in a maximum of ten days, and much more quickly in the Midwest – due to Dryden's strategic location on the CPR east-west trunk line.

Dryden also offers a special service to those who use more than one grade of Dryden pulp: mixed cars with two or more grades help keep your inventories at a minimum.

And, of course, technical information and service are always available whenever the need arises. Order a trial shipment of Dryden Sulphate Pulp—and get the extra bonus of quality and service.

DRYDEN PAPER COMPANY, LIMITED
DRYDEN, ONTARIO, CANADA

SOLD BY: **Anglo Paper Products, Ltd.**
615 Dorchester Blvd. West, Montreal 2, Quebec

Sales Representative in the United States:

Montmorency Paper Company, Inc.
230 Park Avenue, New York 17, N. Y.
20 N. Wacker Drive, Chicago 6, Ill.

This Is Your Invitation To Attend

The 42nd ANNUAL CONVENTION of
PAPER INDUSTRY MANAGEMENT ASSOCIATION

The program will be out of the ordinary—

Two General Conferences

Four Plant Visits **Four Plant Seminars**

Subject emphasis at the General Conferences will be on:

1 Communications **3 Research**

2 Economics **4 Selling**

The mills to be visited are:

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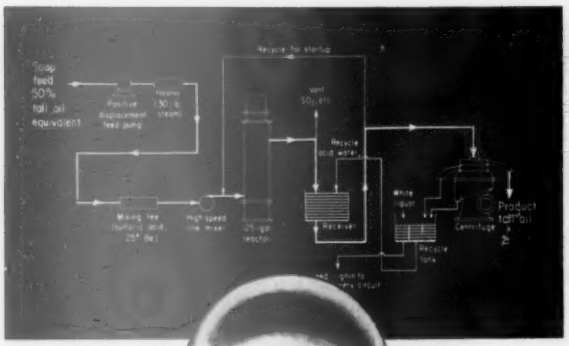

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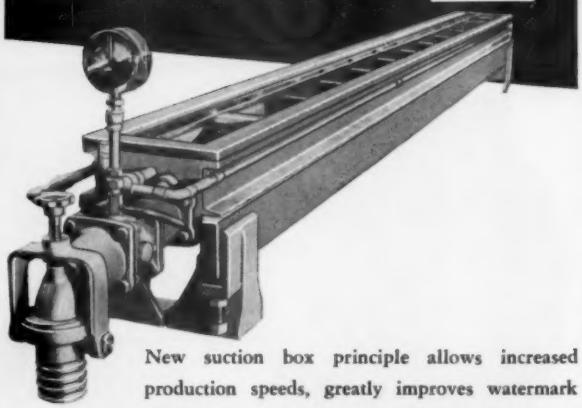

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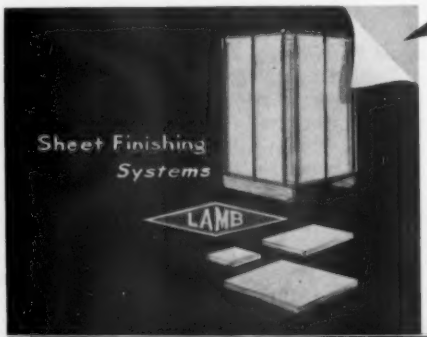

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The last word

The Printed Word Is Making Fascinating History in U.S.A.

Backed by technical advances, increasing outlays for all sorts of advertising and an ever-increasing demand for reading matter, the companies responsible for dissemination of the printed word are writing a fascinating history these days.

Pulp and paper companies are involved in these advances and developments right up to the hilt. This is a modern trend which is one of the solid growth factors of utmost importance to the pulp and paper industry. It means more and more paper will be needed. And papermakers must keep up with the advances made in printing and publishing and advertising.

Barron's weekly magazine discussed this trend as it applies to the printing industry recently. It said expanding markets and better equipment are giving a new luster to the printing industry. This is of prime importance to the paper maker.

Printing is an ancient business

It certainly is one of the world's oldest and largest. Despite the competition of movies, TV and radio, the public is reading an annual rate which now reaches a total of 900 million books, billions of magazines and even more catalogs, brochures, etc. We agree with our readers that there are too many. But among the many are more useful ones, more valuable learning and more profitable advertising.

Last year, the commercial or job printer did $7.3 billions business in U.S.A. Books did $1.5 billion, magazines, $1.6 billion, catalogs and advertising, $4.2 billion. The Department of Commerce says 30,000 firms are currently engaged in commercial printing.

Printing's Big Three, as many paper makers know, are W. F. Hall Printing Co., the Cuneo Press and R. R. Donnelly & Sons, all centrally and strategically headquartering in Chicago. For many months, the presses at these firms and many others have been rolling at top speed. There have been some exceptions—at times in financial printing shops due to stock market gyrations.

Factors creating success

One of the most important, says *Barron's*, is the diversity of the commercial printers' markets. Every business needs some type of printed matter —maybe just a flyer. Most printers are able to shift from one job to another without trouble. Specialization is a thing of the past.

During postwar years the book business has been pushing along at a terrific clip. Increasing leisure time, increasing school populations are reasons. In terms of growth, paperbacks have led the parade.

Donnelly of Chicago is largest in the magazine field—turns out 1.8 million magazines a day. The company serves more than 700 customers and the largest are the Farm Journal, Inc., the Cowles Magazines (*Look*), Time, Inc. It produced the bulk of *Time* issues since 1928 and *Life* since it started in 1936. These developments literally forced the paper industry to move into higher speed on-machine coating methods to meet paper demand and today there are machines in several mills which run continuously, for example, on *Life* paper and have been doing so for years.

Most printers, says *Barron's*, demand and receive ten year contracts with fees adjustable to compensate for labor and material increased costs. Down time—familiar to paper makers —is rare these days on magazines.

The paper industry, a partner in this marvelous printing growth, must in its own right keep pace with its own new development and improvements.

Editor Speaks Twice at Meetings

Albert W. Wilson, editor, PULP & PAPER, is off to Wisconsin this month for two engagements to discuss his experiences in Russia and Poland and in the paper industries of those eastern countries, as well as in many other nations of Europe during the past year.

First, he talks at the annual gathering of the Wisconsin Paper Industry Information Service, attended by many top management men of the Wisconsin industry and their public and community relations chiefs. That will be May 18th at Wisconsin Rapids. The next week, on May 26th, he addresses the VISA group, supply and equipment men of the Fox Valley, who serve the paper industry of the Middle West, in Appleton.

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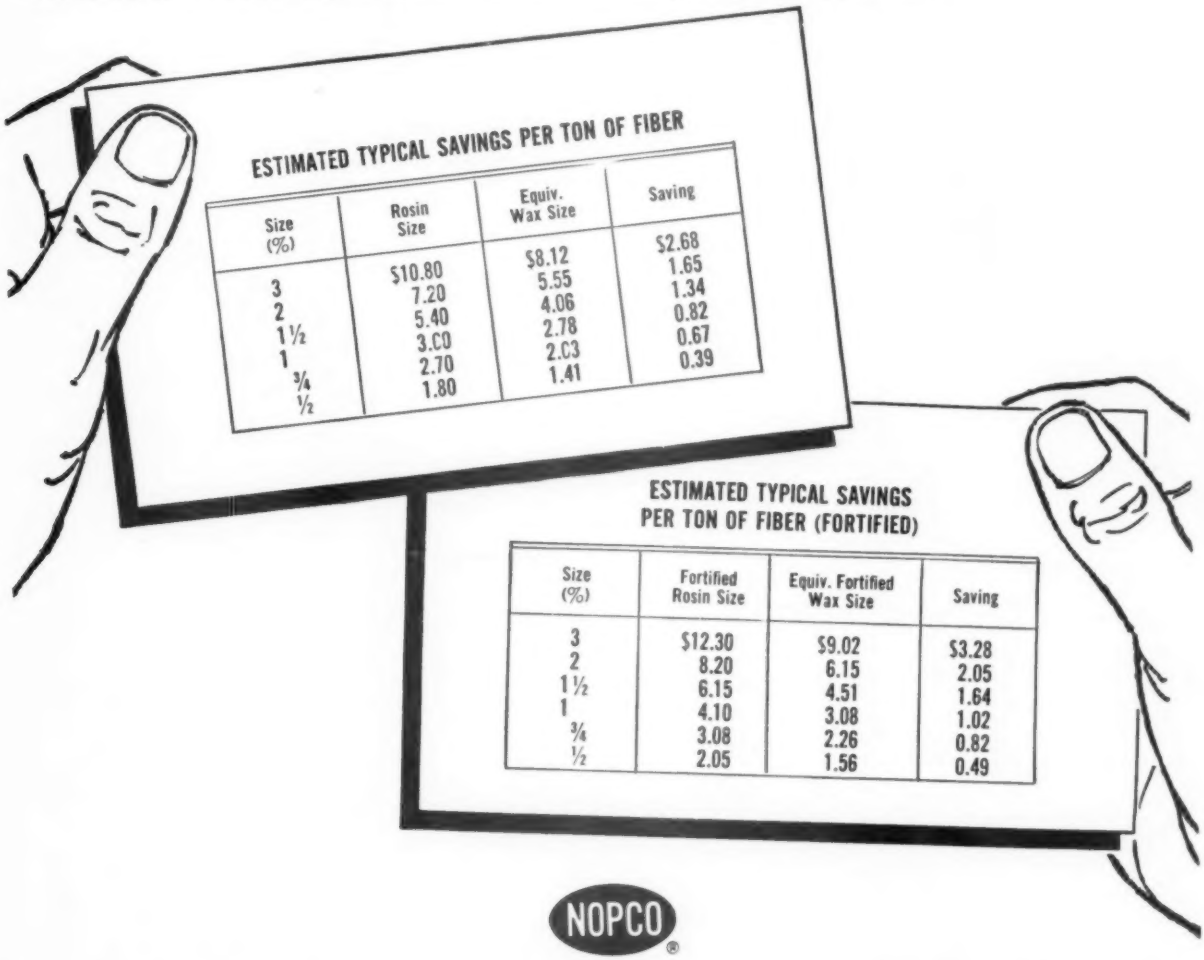

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Size (%)	Rosin Size	Equiv. Wax Size	Saving
3	$10.80	$8.12	$2.68
2	7.20	5.55	1.65
1½	5.40	4.06	1.34
1	3.CO	2.78	0.82
¾	2.70	2.C3	0.67
½	1.80	1.41	0.39

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2	8.20	6.15	2.05
1½	6.15	4.51	1.64
1	4.10	3.08	1.02
¾	3.08	2.26	0.82
½	2.05	1.56	0.49

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